

A Complete Bibliography of Publications in  
*Foundations of Chemistry*

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## References

**Scerri:1999: Ea**

- [1] Eric R. Scerri. Editorial 1. *Foundations of Chemistry*, 1(1):1–5, March 1999. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009976108288>.

**Plesch:1999: DC**

- [2] Peter H. Plesch. On the distinctness of chemistry. *Foundations of Chemistry*, 1(1):6–15, March 1999. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009980225127>.

**Vemulapalli:1999: RR**

- [3] G. Krishna Vemulapalli and Henry Byerly. Remnants of reductionism. *Foundations of Chemistry*, 1(1):17–41, March 1999. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009984310105>.

**Mackay:1999: DNI**

- [4] Alan L. Mackay. From “the dialectics of nature” to the inorganic gene. *Foundations of Chemistry*, 1(1):43–56, March 1999. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009924107380>.

**McIntyre:1999: EPC**

- [5] Lee McIntyre. The emergence of the philosophy of chemistry. *Foundations of Chemistry*, 1(1):57–63, March 1999. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009932309197>.

**Good:1999: WCTa**

- [6] Robert J. Good. Why are chemists ‘turned off’ by philosophy of science? *Foundations of Chemistry*, 1(1):65–95, March 1999. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009931623309>.

**Anonymous:1999: CP**

- [7] Anonymous. Call for papers. *Foundations of Chemistry*, 1(1):97, March 1999. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017230830409>.

**Anonymous:1999:IA**

- [8] Anonymous. Instructions for authors. *Foundations of Chemistry*, 1(1):99–106, March 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1017259931318>.

**Scerri:1999:Eb**

- [9] Eric R. Scerri. Editorial 2. *Foundations of Chemistry*, 1(2):107–109, June 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009917310399>.

**vanBrakel:1999:NPC**

- [10] J. van Brakel. On the neglect of the philosophy of chemistry. *Foundations of Chemistry*, 1(2):111–174, June 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009936404830>.

**Richman:1999:UOE**

- [11] Robert M. Richman. The use of one-electron quantum numbers to describe polyelectronic systems. *Foundations of Chemistry*, 1(2):173–181, June 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009988526035>.

**Good:1999:WCTb**

- [12] Robert J. Good. Why are chemists ‘turned off’ by philosophy of science? *Foundations of Chemistry*, 1(2):185–215, June 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009934808874>.

**Malmstrom:1999:BRA**

- [13] Bo G. Malmström. Book review: Athel Cornish-Bowden, ed., *Eduard Buchner and the Growth of Biochemical Knowledge*. *Foundations of Chemistry*, 1(2):217–219, June 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009998112333>.

**Scerri:1999:Ec**

- [14] Eric R. Scerri. Editorial 3. *Foundations of Chemistry*, 1(3):221–223, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009974614720>.



**Laszlo:1999:CC**

- [15] Pierre Laszlo. Circulation of concepts. *Foundations of Chemistry*, 1(3): 225–238, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009964503013>.

**VanCik:1999:OMO**

- [16] Hrvoj VanCik. Opus magnum: An outline for the philosophy of chemistry. *Foundations of Chemistry*, 1(3):239–254, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009989903921>.

**Rothbart:1999:RBI**

- [17] Daniel Rothbart. On the relationship between instrument and specimen in chemical research. *Foundations of Chemistry*, 1(3):255–268, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009902306647>.

**Strand:1999:TUP**

- [18] Roger Strand. Towards a useful philosophy of biochemistry: Sketches and examples. *Foundations of Chemistry*, 1(3):269–292, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009994005739>.

**Harcourt:1999:ASS**

- [19] Richard D. Harcourt. The atomic shell-structure formula  $2n^2$ . *Foundations of Chemistry*, 1(3):293–294, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1009906525864>.

**Scerri:1999:CAP**

- [20] Eric R. Scerri. A critique of Atkins' periodic kingdom and some writings on electronic structure. *Foundations of Chemistry*, 1(3):295–303, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009906513673>.

**Everdell:1999:BRC**

- [21] William R. Everdell. Book review: 25 centuries of atoms and void. Pullman, Bernard, *The Atom in the History of Human Thought*, translated by Axel R. Reisinger. *Foundations of Chemistry*, 1(3):305–309, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009929123489>.

**Anonymous:1999:AI**

- [22] Anonymous. Authors index. *Foundations of Chemistry*, 1(3):311, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017294916963>.

**Anonymous:1999:VC**

- [23] Anonymous. Volume contents. *Foundations of Chemistry*, 1(3):312–314, October 1999. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1017201816055>.

**Scerri:2000:Ea**

- [24] Eric R. Scerri. Editorial 4. *Foundations of Chemistry*, 2(1):1–4, 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009984100928>.

**Baird:2000:EKD**

- [25] Davis Baird. Encapsulating knowledge: The direct reading spectrometer. *Foundations of Chemistry*, 2(1):5–46, 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009958604987>.

**McEvoy:2000:SCR**

- [26] John G. McEvoy. In search of the chemical revolution: Interpretive strategies in the history of chemistry. *Foundations of Chemistry*, 2(1):47–73, 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009968823008>.

**Nesbet:2000:LE**

- [27] Robert K. Nesbet. Letter to the Editor. *Foundations of Chemistry*, 2(1):75–76, 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1009907629118>.

**Scerri:2000:R**

- [28] Eric Scerri. Response. *Foundations of Chemistry*, 2(1):77–78, 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1009963900271>.

**Ramsey:2000:BRJ**

- [29] Jeffrey L. Ramsey. Book review: Joachim Schummer, *Realismus und Chemie: Philosophische Untersuchungen der Wissenschaft von den Stoffen. Foundations of Chemistry*, 2(1):79–84, 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009905108906>.

**Scerri:2000:Eb**

- [30] Eric R. Scerri. Editorial 5. *Foundations of Chemistry*, 2(2):95–98, May 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009930610570>.

**Akeroyd:2000:FMO**

- [31] F. Michael Akeroyd. The foundations of modern organic chemistry: The rise of the Highes and Ingold theory from 1930–1942. *Foundations of Chemistry*, 2(2):99–125, May 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009942227721>.

**Needham:2000:ANA**

- [32] Paul Needham. Atomic notation and atomistic hypotheses translated by Paul Needham. *Foundations of Chemistry*, 2(2):127–180, May 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009964831496>.

**Morrel:2000:BRD**

- [33] Jack Morrel. Book review: D. M. Knight and H. Kragh (eds.): *The Making of the Chemist: The Social History of Chemistry in Europe, 1789–1914. Foundations of Chemistry*, 2(2):181–185, May 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009906827722>.

**Anonymous:2000:CP**

- [34] Anonymous. Call for papers. *Foundations of Chemistry*, 2(2):187–188, May 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017261913227>.

**Scerri:2000:Ec**

- [35] Eric R. Scerri. Editorial 6. *Foundations of Chemistry*, 2(3):189–194, October 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-

8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009959528934>.

**Benfey:2000:RPC**

- [36] Theodor Benfey. Reflections on the philosophy of chemistry and a rallying call for our discipline. *Foundations of Chemistry*, 2(3):195–205, October 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009946914577>.

**Kovac:2000:PEC**

- [37] Jeffrey Kovac. Professionalism and ethics in chemistry. *Foundations of Chemistry*, 2(3):207–219, October 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009919031335>.

**King:2000:RME**

- [38] R. Bruce King. The role of mathematics in the experimental/theoretical/computational trichotomy of chemistry. *Foundations of Chemistry*, 2(3):221–236, October 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009989423317>.

**Sneath:2000:NCC**

- [39] P. H. A. Sneath. Numerical classification of the chemical elements and its relation to the periodic system. *Foundations of Chemistry*, 2(3):237–263, October 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1009933705492>.

**Anonymous:2000:AIV**

- [40] Anonymous. Authors index volume 2. *Foundations of Chemistry*, 2(3):265, October 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017261930265>.

**Anonymous:2000:CV**

- [41] Anonymous. Contents of volume 2. *Foundations of Chemistry*, 2(3):267–268, October 2000. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017246613426>.

**Scerri:2001:Ea**

- [42] Eric R. Scerri. Editorial 7. *Foundations of Chemistry*, 3(1):1–5, 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011400124413>.

**Klein:2001:BFP**

- [43] Ursula Klein. Berzelian formulas as paper tools in early Nineteenth-Century chemistry. *Foundations of Chemistry*, 3(1):7–32, 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011460318779>.

**Shanks:2001:MBS**

- [44] Niall Shanks. Modeling biological systems: The Belousov–Zhabotinsky reaction. *Foundations of Chemistry*, 3(1):33–53, 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011434929814>.

**Chayut:2001:PGE**

- [45] Michael Chayut. From the periphery: the genesis of Eugene P. Wigner’s application of group theory to quantum mechanics. *Foundations of Chemistry*, 3(1):55–78, 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011431408763>.

**Psillos:2001:SSR**

- [46] Stathis Psillos. Studies in scientific realism. *Foundations of Chemistry*, 3(1):79–86, 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011403012572>.

**Anonymous:2001:ISP**

- [47] Anonymous. The International Society for the Philosophy of Chemistry. *Foundations of Chemistry*, 3(1):87–88, 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017377925321>.

**Anonymous:2001:IA**

- [48] Anonymous. Instructions for authors. *Foundations of Chemistry*, 3(1):89–96, 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1017328226350>.

**Scerri:2001:ESI**

- [49] Eric R. Scerri. Editorial 8 — special issue on the periodic system of the elements. *Foundations of Chemistry*, 3(2):97–104, May 2001. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011443411806>.

**Giunta:2001:APS**

- [50] Carmen J. Giunta. Argon and the periodic system: the piece that would not fit. *Foundations of Chemistry*, 3(2):105–128, May 2001. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011464516139>.

**Kragh:2001:FSE**

- [51] Helge Kragh. The first subatomic explanations of the periodic system. *Foundations of Chemistry*, 3(2):129–143, May 2001. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011448410646>.

**Ostrovsky:2001:WHP**

- [52] V. N. Ostrovsky. What and how physics contributes to understanding the periodic law. *Foundations of Chemistry*, 3(2):145–181, May 2001. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011476405933>.

**Scerri:2001:BSS**

- [53] Eric R. Scerri and Jacob Edwards. Bibliography of secondary sources on the periodic system of the chemical elements. *Foundations of Chemistry*, 3(2):183–195, May 2001. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1011458803337>.

**Scerri:2001:Eb**

- [54] Eric R. Scerri. Editorial 9. *Foundations of Chemistry*, 3(3):197–199, October 2001. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1012989418752>.

**Seibert:2001:CPH**

- [55] Charles Seibert. Charley Peirce's head start in chemistry. *Foundations of Chemistry*, 3(3):201–226, October 2001. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1012901029626>.

**LeVent:2001:WPG**

- [56] S. Le Vent. What is a perfect gas mixture? *Foundations of Chemistry*, 3(3):227–239, October 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1012972025303>.

**Psarros:2001:LBH**

- [57] Nikos Psarros. The lame and the blind, or how much physics does chemistry need? *Foundations of Chemistry*, 3(3):241–249, October 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1012982928838>.

**vanBrakel:2001:WUM**

- [58] J. van Brakel. The world: An unruly mess. *Foundations of Chemistry*, 3(3):251–262, October 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1012926808391>.

**Ramsey:2001:HPN**

- [59] Jeffrey L. Ramsey. Hegel’s philosophy of nature. *Foundations of Chemistry*, 3(3):263–268, October 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1012932023412>.

**Laszlo:2001:SP**

- [60] Pierre Laszlo. A sketch of a program. *Foundations of Chemistry*, 3(3):269–271, October 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1012958923716>.

**Anonymous:2001:AIV**

- [61] Anonymous. Authors index volume 3. *Foundations of Chemistry*, 3(3):273, October 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017408801856>.

**Anonymous:2001:CV**

- [62] Anonymous. Contents of volume 3. *Foundations of Chemistry*, 3(3):275–276, October 2001. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017317629985>.

**Scerri:2002:Ea**

- [63] Eric R. Scerri. Editorial 10. *Foundations of Chemistry*, 4(1):1–4, ??? 2002. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1014457521660>.

**Hentschel:2002:WOM**

- [64] Klaus Hentschel. Why not one more imponderable? John William Draper's tithonic rays. *Foundations of Chemistry*, 4(1):5–59, ??? 2002. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1014443008465>.

**Kerber:2002:MRH**

- [65] Robert C. Kerber. Markovnikov's rule in history and pedagogy. *Foundations of Chemistry*, 4(1):61–72, ??? 2002. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1014479921278>.

**Nye:2002:BRN**

- [66] Mary Jo Nye. Book review: Nalini Bhushan and Stuart Rosenfeld, eds: *Of Minds and Molecules: New Philosophical Perspectives on Chemistry*. *Foundations of Chemistry*, 4(1):73–77, ??? 2002. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1014496426735>.

**Pence:2002:BRL**

- [67] Harry E. Pence. Book review: A. Lundgren and B. Bensaude-Vincent, eds: *Communicating Chemistry: Textbooks and their Audiences, 1789–1929*. *Foundations of Chemistry*, 4(1):79–81, ??? 2002. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1014479318540>.

**Anonymous:2002:CPa**

- [68] Anonymous. Call for papers (1). *Foundations of Chemistry*, 4(1):83, ??? 2002. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017450326453>.

**Anonymous:2002:CPb**

- [69] Anonymous. Call for papers (2). *Foundations of Chemistry*, 4(1):84, ??? 2002. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1017457710523>.



**Anonymous:2002:IAa**

- [70] Anonymous. Instructions for authors. *Foundations of Chemistry*, 4(1): 85–92, 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1017353113146>.

**Scerri:2002:Eb**

- [71] Eric R. Scerri. Editorial 11. *Foundations of Chemistry*, 4(2):93–96, May 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1016055204995>.

**Jacob:2002:PBR**

- [72] Claus Jacob. Philosophy and biochemistry: Research at the interface between chemistry and biology. *Foundations of Chemistry*, 4(2): 97–125, May 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1016052605025>.

**Brooks:2002:DPL**

- [73] Nathan M. Brooks. Developing the periodic law: Mendeleev’s work during 1869–1871. *Foundations of Chemistry*, 4(2):127–147, May 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1016022129746>.

**Cintas:2002:OTC**

- [74] Pedro Cintas. On the origin of tetrahedral carbon: A case for philosophy of chemistry? *Foundations of Chemistry*, 4(2):149–161, May 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1016063004499>.

**Kovac:2002:TPR**

- [75] Jeffrey Kovac. Theoretical and practical reasoning in chemistry. *Foundations of Chemistry*, 4(2):163–171, May 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1016035726186>.

**Luna:2002:BRP**

- [76] Fernando J. Luna. Book review: Pierre Laszlo: *Miroir de la Chimie*. *Foundations of Chemistry*, 4(2):173–177, May 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1016041703950>.

**Scerri:2002:Ec**

- [77] Eric R. Scerri. Editorial 12. *Foundations of Chemistry*, 4(3):179–182, October 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1020610630274>.

**Luisi:2002:ECC**

- [78] Pier Luigi Luisi. Emergence in chemistry: Chemistry as the embodiment of emergence. *Foundations of Chemistry*, 4(3):183–200, October 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1020672005348>.

**Eberhart:2002:QMM**

- [79] Mark Eberhart. Quantum mechanics and molecular design in the twenty first century. *Foundations of Chemistry*, 4(3):201–211, October 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1020655631654>.

**Justi:2002:PCU**

- [80] Rosária S. Justi and John K. Gilbert. Philosophy of chemistry in university chemical education: The case of models and modelling. *Foundations of Chemistry*, 4(3):213–240, October 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1020608215725>.

**Bloor:2002:BRR**

- [81] John E. Bloor. Book review: Ronald J. Gillespie and Paul L. A. Popelier: *Chemical Bonding and Molecular Geometry: From Lewis to Electron Densities*. *Foundations of Chemistry*, 4(3):241–247, October 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1020691330843>.

**Anonymous:2002:AIV**

- [82] Anonymous. Author index volume 4. *Foundations of Chemistry*, 4(3):249, October 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1020643221655>.

**Anonymous:2002:CV**

- [83] Anonymous. Contents of volume 4. *Foundations of Chemistry*, 4(3):251–252, October 2002. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1020699623472>.

**Anonymous:2002:IAb**

- [84] Anonymous. Instructions for authors. *Foundations of Chemistry*, 4(3): 253–260, October 2002. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1020647605725>.

**Scerri:2003:Ea**

- [85] Eric R. Scerri. Editorial 13. *Foundations of Chemistry*, 5(1):1–6, 2003. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1021949109810>.

**Vihalemm:2003:LNS**

- [86] R. Vihalemm. Are laws of nature and scientific theories peculiar in chemistry? Scrutinizing Mendeleev’s discovery. *Foundations of Chemistry*, 5(1):7–22, 2003. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1021980526951>. See response [96].

**Reiher:2003:STC**

- [87] Markus Reiher. A systems theory for chemistry. *Foundations of Chemistry*, 5(1):23–41, 2003. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1021995611796>.

**Taber:2003:ACC**

- [88] Keith S. Taber. The atom in the chemistry curriculum: Fundamental concept, teaching model or epistemological obstacle? *Foundations of Chemistry*, 5(1):43–84, 2003. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1021995612705>.

**Akeroyd:2003:PRP**

- [89] Michael Akeroyd. Predictions, retrodictions and the periodic table. *Foundations of Chemistry*, 5(1):85–88, 2003. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1021965027473>.

**Kauffman:2003:BRC**

- [90] George B. Kauffman and Laurie M. Kauffman. Book review: Carl Djerassi: *An Immaculate Misconception: Sex in an Age of Mechanical*

*Reproduction. Foundations of Chemistry*, 5(1):89–91, 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1021926610496>.

**Ramsey:2003:UKE**

- [91] Jeffrey L. Ramsey. U. Klein (ed.): Tools and modes of representation in the laboratory sciences. *Foundations of Chemistry*, 5(1):93–97, 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1021934727335>.

**Anonymous:2003:IAa**

- [92] Anonymous. Instructions for authors. *Foundations of Chemistry*, 5(1):99–106, 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1021912932560>.

**Scerri:2003:Eb**

- [93] Eric R. Scerri. Editorial 14. *Foundations of Chemistry*, 5(2):107–111, May 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1023649307266>.

**Paneth:2003:ESC**

- [94] F. A. Paneth. The epistemological status of the chemical concept of element. *Foundations of Chemistry*, 5(2):113–145, May 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1023600703644>.

**Reiher:2003:STV**

- [95] Markus Reiher. The systems-theoretical view of chemical concepts. *Foundations of Chemistry*, 5(2):147–163, May 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1023672816861>.

**Christie:2003:CLT**

- [96] John R. Christie and Maureen Christie. Chemical laws and theories: A response to Vihalemm. *Foundations of Chemistry*, 5(2):165–174, May 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1023631726532>. See [86].

**Ramsey:2003:BRP**

- [97] Jeffrey L. Ramsey. Book review: P. J. T. Morris and O. T. Benfey (eds.): *Robert Burns Woodward: Architect and Artist in the World of Molecules*

(History of Modern Chemical Sciences Series). *Foundations of Chemistry*, 5(2):175–178, May 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1023693730053>.

**Hentschel:2003:IRC**

- [98] habil. Klaus Hentschel. The instrumental revolution in chemistry. *Foundations of Chemistry*, 5(2):179–183, May 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1023691917565>.

**Scerri:2003:Ec**

- [99] Eric R. Scerri. Editorial 15. *Foundations of Chemistry*, 5(3):185–188, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1025693811263>.

**Kaji:2003:MDP**

- [100] Masanori Kaji. Mendeleev’s discovery of the periodic law: The origin and the reception. *Foundations of Chemistry*, 5(3):189–214, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1025673206850>.

**Spector:2003:AMR**

- [101] Tami I. Spector. The aesthetics of molecular representation: From the empirical to the constitutive. *Foundations of Chemistry*, 5(3):215–236, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1025692518934>.

**Vancik:2003:PCL**

- [102] Hrvoj Vancik. Philosophy of chemistry and limits of complexity. *Foundations of Chemistry*, 5(3):237–247, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1025656727195>.

**Allin:2003:BRC**

- [103] Shawn B. Allin. Book review: Cathy Cobb: *Magick, Mayhem, and Mavericks: The Spirited History of Physical Chemistry*. *Foundations of Chemistry*, 5(3):249–252, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1025648701979>.

**Needham:2003:BRM**

- [104] Paul Needham. Book review: Maureen Christie: *The Ozone Layer. A Philosophy of Science Perspective*. *Foundations of Chemistry*, 5(3):253–261, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1025642128618>.

**Anonymous:2003:AIV**

- [105] Anonymous. Author index volume 5. *Foundations of Chemistry*, 5(3):263, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1025651709786>.

**Anonymous:2003:CV**

- [106] Anonymous. Contents of volume 5. *Foundations of Chemistry*, 5(3):265–266, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/A:1025668824808>.

**Anonymous:2003:IAb**

- [107] Anonymous. Instructions for authors. *Foundations of Chemistry*, 5(3):267–273, October 2003. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/A:1025640107542>.

**Scerri:2004:Ea**

- [108] Eric R. Scerri. Editorial 16. *Foundations of Chemistry*, 6(1):1–2, ??? 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/B:FOCH.0000021194.71352.22>.

**Bhushan:2004:I**

- [109] Nalini Bhushan. Introduction. *Foundations of Chemistry*, 6(1):3–9, ??? 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000021170.34287.f7>.

**Hoffmann:2004:TC**

- [110] Roald Hoffmann. Theoretical chemistry. *Foundations of Chemistry*, 6(1):11, ??? 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/B:FOCH.0000020992.64107.f5>.

**Woody:2004:TSW**

- [111] Andrea I. Woody. Telltale signs: What common explanatory strategies in chemistry reveal about explanation itself. *Foundations of Chemistry*, 6(1):13–43, 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000020993.09368.b6>. See response [112].

**Weininger:2004:RTS**

- [112] Stephen J. Weininger. Response to “Telltale Signs: What Common Explanatory Strategies in Chemistry Reveal About Explanation Itself”. *Foundations of Chemistry*, 6(1):45–48, 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000020994.23928.4d>. See [111].

**Douglas:2004:PED**

- [113] Heather Douglas. Prediction, explanation, and dioxin biochemistry: Science in public policy. *Foundations of Chemistry*, 6(1):49–63, 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000020995.75920.81>.

**Wiberg:2004:SSS**

- [114] Kenneth B. Wiberg. Strain, structure, stability and reactivity. *Foundations of Chemistry*, 6(1):65–80, 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000020996.34436.71>.

**Ramsey:2004:SES**

- [115] Jeffry L. Ramsey. Straining to explain strain and synthesis. *Foundations of Chemistry*, 6(1):81–91, 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000020997.72966.3b>.

**Scerri:2004:JHI**

- [116] Eric R. Scerri. Just how ab initio is ab initio quantum chemistry? *Foundations of Chemistry*, 6(1):93–116, 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000020998.31689.16>. See comments [117, 149].

**Friedrich:2004:LHI**

- [117] Bretislav Friedrich. ... hasn't it? A commentary on Eric Scerri's paper "Has Quantum Mechanics Explained the Periodic Table?". *Foundations of Chemistry*, 6(1):117–132, 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000020999.69326.89>. See [116].

**Anonymous:2004:CP**

- [118] Anonymous. Call for papers. *Foundations of Chemistry*, 6(1):133, 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/B:FOCH.0000021196.65720.cc>.

**Scerri:2004:Eb**

- [119] Eric R. Scerri. Editorial 17. *Foundations of Chemistry*, 6(2):135–136, May 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/B:FOCH.0000035095.09138.6b>.

**Eddy:2004:EPN**

- [120] M. D. Eddy. Elements, principles and the narrative of affinity. *Foundations of Chemistry*, 6(2):161–175, May 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000035061.02831.45>.

**Laszlo:2004:BRB**

- [121] Pierre Laszlo. Book review: *Mapping the Spectrum. Techniques of Visual Representation in Research and Teaching*. *Foundations of Chemistry*, 6(2):177–189, May 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000034991.05140.15>.

**Sanchez:2004:BRB**

- [122] José Ramón Bertomeu Sánchez. Book review: *Lavoisier in Italia*. *Foundations of Chemistry*, 6(2):191–195, May 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000034990.68395.20>.

**Anonymous:2004:Ca**

- [123] Anonymous. Corrigendum. *Foundations of Chemistry*, 6(2):197, May 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/B:FOCH.0000035096.25553.8e>.



**Earley:2004:WIC**

- [124] Joseph E. Earley. Would introductory chemistry courses work better with a new philosophical basis? *Foundations of Chemistry*, 6(3):137–160, October 2004. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000034992.42777.95>.

**Scerri:2004:Ec**

- [125] Eric R. Scerri. Editorial 18. *Foundations of Chemistry*, 6(3):199–201, October 2004. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000041643.10770.5d>.

**Deltete:2004:BRB**

- [126] Robert J. Deltete and Anastasios Brenner. Book review: *Pierre Duhem: Mixture and Chemical Combination and Related Essays*. Edited and translated, with an Introduction, by Paul Needham. *Foundations of Chemistry*, 6(3):203–232, October 2004. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000041548.61723.77>. See response [127].

**Needham:2004:MCC**

- [127] Paul Needham. Mixture and chemical combination and related essays: A response to Robert Deltete and Anastasios Brenner. *Foundations of Chemistry*, 6(3):233–245, October 2004. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000041549.06984.c3>. See [126].

**Kauffman:2004:BRF**

- [128] George B. Kauffman and Laurie M. Kauffman. Book review: Fred Basolo: *From Coello to Inorganic Chemistry: A Lifetime of Reactions*. *Foundations of Chemistry*, 6(3):247–250, October 2004. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000041953.83552.86>.

**Anonymous:2004:Cb**

- [129] Anonymous. Corrigendum. *Foundations of Chemistry*, 6(3):251, October 2004. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/B:FOCH.0000041679.58052.9f>.

**Anonymous:2004:AIV**

- [130] Anonymous. Author index volume 6. *Foundations of Chemistry*, 6(3):253, October 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/B:FOCH.0000041958.76547.c4>.

**Anonymous:2004:CV**

- [131] Anonymous. Contents of volume 6. *Foundations of Chemistry*, 6(3):255–257, October 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000041957.11094.3d>.

**Anonymous:2004:IA**

- [132] Anonymous. Instructions for authors. *Foundations of Chemistry*, 6(3):259–265, October 2004. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000041956.39391.of>.

**Scerri:2005:ESI**

- [133] Eric R. Scerri. Editorial 19 special issue on philosophical problems of chemical kinds. *Foundations of Chemistry*, 7(1):1–4, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000042937.36350.5a>.

**Harre:2005:I**

- [134] Rom Harré. Introduction. *Foundations of Chemistry*, 7(1):5, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1023/B:FOCH.0000042884.40307.a5>.

**Harre:2005:CKE**

- [135] Rom Harré. Chemical kinds and essences revisited. *Foundations of Chemistry*, 7(1):7–30, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000042885.93975.69>.

**Hendry:2005:LME**

- [136] Robin Findlay Hendry. Lavoisier and Mendeleev on the elements. *Foundations of Chemistry*, 7(1):31–48, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000042886.65679.4e>.

**Simonian:2005:PCC**

- [137] Joseph Simonian. The paradoxes of chemical classification: Why ‘water is  $H_2O$ ’ is not an identity statement. *Foundations of Chemistry*, 7(1):49–56, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000042887.03317.11>.

**vanBrakel:2005:IX**

- [138] J. van Brakel. On the inventors of XYZ. *Foundations of Chemistry*, 7(1):57–84, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000042888.33192.2e>.

**Earley:2005:WTN**

- [139] Joseph E. Earley. Why there is no salt in the sea. *Foundations of Chemistry*, 7(1):85–102, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000042881.05418.15>.

**Needham:2005:MM**

- [140] Paul Needham. Mixtures and modality. *Foundations of Chemistry*, 7(1):103–118, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1023/B:FOCH.0000042889.36764.49>.

**Scerri:2005:Ea**

- [141] Eric R. Scerri. Editorial 20. *Foundations of Chemistry*, 7(2):119–123, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-0118-5>.

**Lombardi:2005:OAC**

- [142] Olimpia Lombardi and Martín Labarca. The ontological autonomy of the chemical world. *Foundations of Chemistry*, 7(2):125–148, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-004-0980-6>. See comment [164].

**Wilholt:2005:EMT**

- [143] Torsten Wilholt. Explaining models: Theoretical and phenomenological models and their role for the first explanation of the hydrogen spectrum. *Foundations of Chemistry*, 7(2):149–169, 2005. CODEN

FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-004-5958-x>.

**Vihalemm:2005:CTM**

- [144] Rein Vihalemm. Chemistry and a theoretical model of science: On the occasion of a recent debate with the Christies. *Foundations of Chemistry*, 7(2):171–182, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-0959-y>.

**Kauffman:2005:BRF**

- [145] George B. Kauffman. Book review: Fathi Habashi: *From Alchemy to Atomic Bombs: History of Chemistry, Metallurgy, and Civilization*. Métallurgie Extractive Québec: 800 rue Alain #504, Sainte Foy, Québec, Canada G1X 4E7, 2002; distributed by Laval University Bookstore “Zone”: Cité Universitaire, Sainte Foy, Québec, Canada G1K 7P4, viii + 357 pp, Can.\$70.00; U.S.\$50.00; plus postage (hardbound); ISBN 2-922686-00-0. *Foundations of Chemistry*, 7(2):183–186, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-004-5960-3>.

**Hendry:2005:BRJ**

- [146] Robin Findlay Hendry. Book review: Jaap van Brakel: *Philosophy of Chemistry: Between the Manifest and the Scientific Image* Leuven, University Press, Leuven, 2000, xiv + 246 pp., ISBN 90-5867-063-5. *Foundations of Chemistry*, 7(2):187–197, 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-004-0491-5>.

**Scerri:2005:Eb**

- [147] Eric R. Scerri. Editorial 21. *Foundations of Chemistry*, 7(3):199–202, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-4510-y>.

**Laing:2005:RPT**

- [148] Michael Laing. A revised periodic table: With the lanthanides repositioned. *Foundations of Chemistry*, 7(3):203–233, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-004-5959-9>.

**Ostrovsky:2005:RDC**

- [149] V. N. Ostrovsky. On recent discussion concerning quantum justification of the periodic table of the elements. *Foundations of Chemistry*, 7(3):235–239, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-2141-y>. See [116, 117].

**Novaro:2005:ACD**

- [150] Octavio Novaro. Activity of closed *d*-shells in noble metal atoms. *Foundations of Chemistry*, 7(3):241–268, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-004-0787-5>.

**Kidwai:2005:GCI**

- [151] M. Kidwai and R. Mohan. Green chemistry: An innovative technology. *Foundations of Chemistry*, 7(3):269–287, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-004-2783-1>.

**Balaban:2005:RAM**

- [152] A. T. Balaban. Reflections about mathematical chemistry. *Foundations of Chemistry*, 7(3):289–306, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-0779-0>.

**Korobov:2005:SCR**

- [153] A. Korobov. Simple chemical reactions in the solid state: Towards elaborating a conception. *Foundations of Chemistry*, 7(3):307–314, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-7326-x>.

**Giunta:2005:BRM**

- [154] Carmen Giunta. Book review: Michael D. Gordin: *A Well-Ordered Thing: Dmitrii Mendeleev and the Shadow of the Periodic Table*, Basic Books, New York, 2004, 364 + xx pp., ISBN 0-465-02775-X, \$30. *Foundations of Chemistry*, 7(3):315–319, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-7201-9>.

**Pence:2005:BRM**

- [155] Harry E. Pence. Book review: Mark Albert: *Galen's Lectures: A Novel About Chemistry*, Xlibris Corporation, 2000, 493 pp. (ISBN 0-7388-4196-

X). *Foundations of Chemistry*, 7(3):321–324, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-7197-1>.

**Anonymous:2005:AIV**

- [156] Anonymous. Author index volume 7. *Foundations of Chemistry*, 7(3):325, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-005-4509-4>; <http://link.springer.com/article/10.1007/s10698-005-4509-4>.

**Anonymous:2005:CV**

- [157] Anonymous. Contents of volume 7. *Foundations of Chemistry*, 7(3):327–329, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-4515-6>.

**Anonymous:2005:IA**

- [158] Anonymous. Instructions for authors. *Foundations of Chemistry*, 7(3):331–337, October 2005. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-4516-5>.

**Scerri:2006:Ea**

- [159] Eric Scerri. Editorial 22. *Foundations of Chemistry*, 8(1):1–2, February 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-006-9011-0>; <http://link.springer.com/article/10.1007/s10698-006-9011-0>.

**Stein:2006:PTE**

- [160] Ross L. Stein. A process theory of enzyme catalytic power- the interplay of science and metaphysics. *Foundations of Chemistry*, 8(1):3–29, February 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-7907-8>.

**Sacks:2006:CPH**

- [161] Lawrence J. Sacks. Concerning the position of hydrogen in the periodic table. *Foundations of Chemistry*, 8(1):31–35, February 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-9003-5>.

**Shahbazian:2006:RON**

- [162] Shant Shahbazian and Mansour Zahedi. The role of observables and non-observables in chemistry: A critique of chemical language. *Foundations of Chemistry*, 8(1):37–52, February 2006. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-8247-4>.

**Schummer:2006:GSM**

- [163] Joachim Schummer. Gestalt switch in molecular image perception: The aesthetic origin of molecular nanotechnology in supramolecular chemistry. *Foundations of Chemistry*, 8(1):53–72, February 2006. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-3358-5>.

**Needham:2006:ORC**

- [164] Paul Needham. Ontological reduction: a comment on Lombardi and Labarca. *Foundations of Chemistry*, 8(1):73–80, February 2006. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-9002-6>. See [142].

**Lombardi:2006:OAC**

- [165] Olimpia Lombardi and Martín Labarca. The ontological autonomy of the chemical world: a response to Needham. *Foundations of Chemistry*, 8(1):81–92, February 2006. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-9004-4>.

**Scerri:2006:Eb**

- [166] Eric Scerri. Editorial 23. *Foundations of Chemistry*, 8(2):93–95, July 2006. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9021-y>.

**Labinger:2006:OSN**

- [167] Jay A. Labinger. Organized skepticism, naïve methodism, and other-isms. *Foundations of Chemistry*, 8(2):97–110, July 2006. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-004-3531-2>.

**Wink:2006:CBP**

- [168] Donald J. Wink. Connections between pedagogical and epistemological constructivism: Questions for teaching and research in chemistry. *Foundations of Chemistry*, 8(2):111–151, July 2006. CODEN FOCHF. ISSN

1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9008-8>.

**deBerg:2006:SCC**

- [169] Kevin C. de Berg. The status of constructivism in chemical education research and its relationship to the teaching and learning of the concept of idealization in chemistry. *Foundations of Chemistry*, 8(2):153–176, July 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9010-1>.

**Cardellini:2006:FRC**

- [170] Liberato Cardellini. The foundations of radical constructivism: An interview with Ernst von Glasersfeld. *Foundations of Chemistry*, 8(2):177–187, July 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9012-z>.

**Taber:2006:CNC**

- [171] Keith S. Taber. Constructivism’s new clothes: The trivial, the contingent, and a progressive research programme into the learning of science. *Foundations of Chemistry*, 8(2):189–219, July 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-4536-1>.

**Scerri:2006:Ec**

- [172] Eric Scerri. Editorial 24. *Foundations of Chemistry*, 8(3):221–223, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9028-4>.

**Sharlow:2006:CEP**

- [173] M. F. Sharlow. Chemical elements and the problem of universals. *Foundations of Chemistry*, 8(3):225–242, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9016-8>.

**Forster:2006:CPP**

- [174] Leslie S. Forster. Chromium photophysics- a prototypical case history. *Foundations of Chemistry*, 8(3):243–254, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9017-7>.



**Snooks:2006:ASP**

- [175] R. J. Snooks. Another scientific practice separating chemistry from physics: thought experiments. *Foundations of Chemistry*, 8(3):255–270, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9019-5>.

**Earley:2006:SPI**

- [176] Joseph E. Earley, Sr. Some philosophical influences on Ilya Prigogine's statistical mechanics. *Foundations of Chemistry*, 8(3):271–283, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9007-9>.

**Scerri:2006:CAK**

- [177] Eric R. Scerri. Commentary on Allen & Knight's response to the Löwdin Challenge. *Foundations of Chemistry*, 8(3):285–292, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9009-7>.

**Bloor:2006:BR**

- [178] John E. Bloor and W. H. Eugen Schwarz. Book review. *Foundations of Chemistry*, 8(3):293–303, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9014-x>. See response [179].

**King:2006:RDH**

- [179] R. B. King and D. H. Rouvray. Response of D. H. Rouvray and R. B. King, Editors of the Book *The Periodic Table: Into the 21st Century*. *Foundations of Chemistry*, 8(3):305–306, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-006-9013-y>; <http://link.springer.com/article/10.1007/s10698-006-9013-y>. See [178].

**Pagni:2006:BR**

- [180] R. Pagni. Book review. *Foundations of Chemistry*, 8(3):307–310, October 2006. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9015-9>.

**Scerri:2007:Ea**

- [181] Eric R. Scerri. Editorial 25. *Foundations of Chemistry*, 9(1):1, April 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (elec-

tronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-007-9031-4>; <http://link.springer.com/article/10.1007/s10698-007-9031-4>.

**Deltete:2007:WOEa**

- [182] R. J. Deltete. Wilhelm Ostwald's energetics 1: Origins and motivations. *Foundations of Chemistry*, 9(1):3–56, April 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-6707-5>.

**Jacob:2007:CDC**

- [183] Claus Jacob. The closure of the Department of Chemistry at the University of Exeter — an insider's view. *Foundations of Chemistry*, 9(1):57–64, April 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9006-x>.

**Napinen:2007:NHU**

- [184] Leo Näpinen. The need for the historical understanding of nature in physics and chemistry. *Foundations of Chemistry*, 9(1):65–84, April 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9018-6>.

**Shahbazian:2007:LEC**

- [185] Shant Shahbazian and Mansour Zahedi. Letter to the Editor: The concept of chemical bond- some like it fuzzy but others concrete. *Foundations of Chemistry*, 9(1):85–95, April 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9023-9>.

**Giunta:2007:BR**

- [186] Carmen J. Giunta. Book review. *Foundations of Chemistry*, 9(1):97–100, April 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9005-y>.

**Stemwedel:2007:BR**

- [187] Janet D. Stemwedel. Book review. *Foundations of Chemistry*, 9(1):101–114, April 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9024-8>.

**Scerri:2007:Eb**

- [188] Eric R. Scerri. Editorial 26. *Foundations of Chemistry*, 9(2):115–117, July 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9037-y>.

**Rayner-Canham:2007:CKM**

- [189] Geoff Rayner-Canham and Megan Oldford. The chemical ‘Knight’s Move’ relationship: what is its significance? *Foundations of Chemistry*, 9(2):119–125, July 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9034-1>.

**Laing:2007:WPH**

- [190] Michael Laing. Where to put hydrogen in a periodic table? *Foundations of Chemistry*, 9(2):127–137, July 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9027-5>.

**Schwarz:2007:RQR**

- [191] W. H. Eugen Schwarz. Recommended questions on the road towards a scientific explanation of the periodic system of chemical elements with the help of the concepts of quantum physics. *Foundations of Chemistry*, 9(2):139–188, July 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9020-z>.

**Restrepo:2007:MAP**

- [192] Guillermo Restrepo and Leonardo Pachón. Mathematical aspects of the periodic law. *Foundations of Chemistry*, 9(2):189–214, July 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9026-6>.

**Rayner-Canham:2007:BRE**

- [193] G. W. Rayner-Canham. Book review: Eric R. Scerri, *The Periodic Table: its Story and its Significance*. *Foundations of Chemistry*, 9(2):215–218, July 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9032-3>.

**Scerri:2007:Ec**

- [194] Eric Scerri. Editorial 27. *Foundations of Chemistry*, 9(3):219–220, October 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (elec-

tronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-007-9040-3>; <http://link.springer.com/article/10.1007/s10698-007-9040-3>.

**Kibler:2007:MPT**

- [195] Maurice R. Kibler. From the Mendeleev periodic table to particle physics and back to the periodic table. *Foundations of Chemistry*, 9(3):221–234, October 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9039-9>.

**Stewart:2007:CDM**

- [196] Philip J. Stewart. A century on from Dmitrii Mendeleev: tables and spirals, noble gases and Nobel prizes. *Foundations of Chemistry*, 9(3):235–245, October 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9038-x>.

**Erduran:2007:BLP**

- [197] Sibel Erduran. Breaking the law: promoting domain-specificity in chemical education in the context of arguing about the periodic law. *Foundations of Chemistry*, 9(3):247–263, October 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9036-z>.

**Deltete:2007:WOEb**

- [198] R. J. Deltete. Wilhelm Ostwald’s energetics 2: energetic theory and applications, part I. *Foundations of Chemistry*, 9(3):265–316, October 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9025-7>.

**Ruthenberg:2007:SCP**

- [199] Klaus Ruthenberg. Saving chemical phenomena outside the scientific community. *Foundations of Chemistry*, 9(3):317–320, October 2007. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9030-5>.

**Scerri:2008:Ea**

- [200] Eric R. Scerri. Editorial 28. *Foundations of Chemistry*, 10(1):1–2, April 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-008-9043-8>; <http://link.springer.com/article/10.1007/s10698-008-9043-8>.

**Novaro:2008:RPW**

- [201] Octavio Novaro. On the rightful place for He within the periodic table. *Foundations of Chemistry*, 10(1):3–12, April 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9041-2>.

**Rayner-Canham:2008:NEA**

- [202] Geoff Rayner-Canham and Zheng Zheng. Naming elements after scientists: an account of a controversy. *Foundations of Chemistry*, 10(1):13–18, April 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9042-1>.

**Harre:2008:SPM**

- [203] Rom Harré. Some presuppositions in the metaphysics of chemical reactions. *Foundations of Chemistry*, 10(1):19–38, April 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-9000-8>.

**Akeroyd:2008:MEV**

- [204] F. Michael Akeroyd. Mechanistic explanation versus deductive-nomological explanation. *Foundations of Chemistry*, 10(1):39–48, April 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-005-9001-7>.

**Newman:2008:CS**

- [205] Micah Newman. Chemical supervenience. *Foundations of Chemistry*, 10(1):49–62, April 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9029-3>.

**Paparazzo:2008:WTC**

- [206] Ernesto Paparazzo. Why take chemistry stoically? The case of Posidonius. *Foundations of Chemistry*, 10(1):63–75, April 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9035-0>.

**Scerri:2008:Eb**

- [207] Eric Scerri. Editorial 29. *Foundations of Chemistry*, 10(2):77–78, July 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10>.

1007/s10698-008-9048-3; <http://link.springer.com/article/10.1007/s10698-008-9048-3>.

**Alvarez:2008:BCE**

- [208] Santiago Alvarez, Joaquim Sales, and Miquel Seco. On books and chemical elements. *Foundations of Chemistry*, 10(2):79–100, July 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9047-4>.

**Hoyningen-Huene:2008:TKC**

- [209] Paul Hoyningen-Huene. Thomas Kuhn and the chemical revolution. *Foundations of Chemistry*, 10(2):101–115, July 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9044-7>.

**Goodwin:2008:SFE**

- [210] W. M. Goodwin. Structural formulas and explanation in organic chemistry. *Foundations of Chemistry*, 10(2):117–127, July 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-007-9033-2>.

**Cardellini:2008:VIE**

- [211] Liberato Cardellini. The views and influence of Ernst von Glasersfeld: An introduction. *Foundations of Chemistry*, 10(2):129–134, July 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-006-9022-x>.

**Hettema:2008:NMW**

- [212] Hinne Hettema. A note on Michael Weisberg's: challenges to the structural conception of chemical bonding. *Foundations of Chemistry*, 10(2):135–142, July 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9045-6>.

**Scerri:2008:Ec**

- [213] Eric Scerri. Editorial 30. *Foundations of Chemistry*, 10(3):143, October 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-008-9056-3>; <http://link.springer.com/article/10.1007/s10698-008-9056-3>.

**Spector:2008:IE**

- [214] Tami I. Spector. ISPC 2007 editorial. *Foundations of Chemistry*, 10(3):145–146, October 2008. CODEN FOCHFL. ISSN 1386-4238

(print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-008-9057-2>; <http://link.springer.com/article/10.1007/s10698-008-9057-2>.

**Berson:2008:FTT**

- [215] Jerome A. Berson. Fundamental theories and their empirical patches. *Foundations of Chemistry*, 10(3):147–156, October 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9046-5>.

**Chalmers:2008:AAN**

- [216] Alan F. Chalmers. Atom and aether in nineteenth-century physical science. *Foundations of Chemistry*, 10(3):157–166, October 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9051-8>.

**Vemulapalli:2008:TCB**

- [217] G. K. Vemulapalli. Theories of the chemical bond and its true nature. *Foundations of Chemistry*, 10(3):167–176, October 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9049-2>.

**Goodwin:2008:IIT**

- [218] W. M. Goodwin. Implementation and innovation in total synthesis. *Foundations of Chemistry*, 10(3):177–186, October 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9050-9>.

**Deltete:2008:Woe**

- [219] Robert J. Deltete. Wilhelm Ostwald’s energetics 3: energetic theory and applications, part II. *Foundations of Chemistry*, 10(3):187–221, October 2008. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9053-6>.

**Scerri:2009:Ea**

- [220] Eric Scerri. Editorial 31. *Foundations of Chemistry*, 11(1):1–2, April 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9068-7>; <http://link.springer.com/content/pdf/10.1007/s10698-009-9068-7.pdf>.

**Spector:2009:ISE**

- [221] Tami I. Spector. ISPC 2007 second editorial. *Foundations of Chemistry*, 11(1):3–5, April 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9066-9>; <http://link.springer.com/content/pdf/10.1007/s10698-009-9066-9.pdf>.

**Sukumar:2009:CCM**

- [222] N. Sukumar. The chemist's concept of molecular structure. *Foundations of Chemistry*, 11(1):7–20, April 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9060-7>.

**Salmon:2009:EE**

- [223] James Francis Salmon. Emergence in evolution. *Foundations of Chemistry*, 11(1):21–32, April 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9059-0>.

**Garcia:2009:DSN**

- [224] Pio García. Discovery by serendipity: a new context for an old riddle. *Foundations of Chemistry*, 11(1):33–42, April 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9061-6>.

**Pagni:2009:ODA**

- [225] Richard Martin Pagni. The origin and development of the acidity function. *Foundations of Chemistry*, 11(1):43–50, April 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9065-x>.

**Tromble:2009:ACS**

- [226] Meredith Tromble. The advent of chemical symbolism in the art of Sonya Rapoport. *Foundations of Chemistry*, 11(1):51–60, April 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9058-1>.

**Scerri:2009:Eb**

- [227] Eric R. Scerri. Editorial 32. *Foundations of Chemistry*, 11(2):61–62, July 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9072-y>; <http://link.springer.com/content/pdf/10.1007/s10698-009-9072-y.pdf>.



**Spector:2009:ITE**

- [228] Tami I. Spector. ISPC 2007 third editorial. *Foundations of Chemistry*, 11(2):63–64, July 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9073-x>; <http://link.springer.com/content/pdf/10.1007/s10698-009-9073-x.pdf>.

**Earley:2009:HCS**

- [229] Joseph E. Earley, Sr. How chemistry shifts horizons: element, substance, and the essential. *Foundations of Chemistry*, 11(2):65–77, July 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9054-5>.

**Ruthenberg:2009:PKP**

- [230] Klaus Ruthenberg. Paneth, Kant, and the philosophy of chemistry. *Foundations of Chemistry*, 11(2):79–91, July 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9064-y>.

**Harre:2009:TTO**

- [231] Rom Harré. Trope theory and the ontology of chemistry. *Foundations of Chemistry*, 11(2):93–103, July 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9052-7>.

**Pagni:2009:WNF**

- [232] Richard M. Pagni. The weak nuclear force, the chirality of atoms, and the origin of optically active molecules. *Foundations of Chemistry*, 11(2):105–122, July 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9070-0>.

**Rayner-Canham:2009:ISF**

- [233] Geoff Rayner-Canham. Isoelectronic series: a fundamental periodic property. *Foundations of Chemistry*, 11(2):123–129, July 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9055-4>.

**Scerri:2009:Ec**

- [234] Eric R. Scerri. Editorial 33. *Foundations of Chemistry*, 11(3):131–133, October 2009. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698->

009-9080-y; <http://link.springer.com/content/pdf/10.1007/s10698-009-9080-y.pdf>.

**Sima:2009:ONI**

- [235] Jozef Sima. Oxidation number: issues of its determination and range. *Foundations of Chemistry*, 11(3):135–143, October 2009. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9071-z>.

**Hettema:2009:ETF**

- [236] Hinne Hettema. Explanation and theory formation in quantum chemistry. *Foundations of Chemistry*, 11(3):145–174, October 2009. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9075-8>.

**DeKosky:2009:BRW**

- [237] Robert K. DeKosky. Book review: William H. Brock: *William Crookes (1832–1919) and the Commercialization of Science*. *Foundations of Chemistry*, 11(3):175–180, October 2009. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9074-9>.

**McIntyre:2009:BRE**

- [238] Lee McIntyre. Book review: Eric Scerri: *Collected papers on philosophy of chemistry*. *Foundations of Chemistry*, 11(3):181–182, October 2009. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-009-9076-7>; <http://link.springer.com/article/10.1007/s10698-009-9076-7>.

**Labarca:2009:BRK**

- [239] Martín Labarca and Olimpia Lombardi. Book review: Klaus Ruthenberg and Jaap van Brakel (eds): *Stuff. The nature of chemical substances*. *Foundations of Chemistry*, 11(3):183–186, October 2009. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9077-6>.

**Scerri:2010:Ea**

- [240] Eric R. Scerri. Editorial 34. *Foundations of Chemistry*, 12(1):1–3, April 2010. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9087-4>; <http://link.springer.com/content/pdf/10.1007/s10698-010-9087-4.pdf>.

**Stewart:2010:CJU**

- [241] Philip J. Stewart. Charles Janet: unrecognized genius of the periodic system. *Foundations of Chemistry*, 12(1):5–15, April 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9062-5>.

**Griffith:2010:GVP**

- [242] W. P. Griffith. The group VIII platinum-group metals and the periodic table. *Foundations of Chemistry*, 12(1):17–25, April 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-008-9063-4>.

**Laing:2010:QMU**

- [243] M. J. Laing. The question mark at uranium. *Foundations of Chemistry*, 12(1):27–30, April 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9067-8>.

**Habashi:2010:MTL**

- [244] Fathi Habashi. Metals: typical and less typical, transition and inner transition. *Foundations of Chemistry*, 12(1):31–39, April 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9069-6>.

**Tobin:2010:MMC**

- [245] Emma Tobin. Microstructuralism and macromolecules: the case of moonlighting proteins. *Foundations of Chemistry*, 12(1):41–54, April 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9078-5>.

**Linthorst:2010:OOD**

- [246] J. A. Linthorst. An overview: origins and development of green chemistry. *Foundations of Chemistry*, 12(1):55–68, April 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9079-4>; <http://link.springer.com/content/pdf/10.1007/s10698-009-9079-4.pdf>

**Scerri:2010:EPT**

- [247] Eric Scerri. Explaining the periodic table, and the role of chemical triads. *Foundations of Chemistry*, 12(1):69–83, April 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9082-9>.

**Marks:2010:NRD**

- [248] E. G. Marks and J. A. Marks. Newlands revisited: a display of the periodicity of the chemical elements for chemists. *Foundations of Chemistry*, 12(1):85–93, April 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9083-8>; <http://link.springer.com/content/pdf/10.1007/s10698-010-9083-8.pdf>.

**Scerri:2010:Eb**

- [249] Eric Scerri. Editorial 35. *Foundations of Chemistry*, 12(2):95–96, October 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9095-4>; <http://link.springer.com/content/pdf/10.1007/s10698-010-9095-4.pdf>.

**Ruthenberg:2010:IFE**

- [250] K. Ruthenberg. ISPC 2008 first editorial. *Foundations of Chemistry*, 12(2):97–99, October 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9096-3>; <http://link.springer.com/content/pdf/10.1007/s10698-010-9096-3.pdf>.

**Harre:2010:CCC**

- [251] Rom Harré. Causal concepts in chemical vernaculars. *Foundations of Chemistry*, 12(2):101–115, October 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9091-8>.

**Akeroyd:2010:PSM**

- [252] Michael Akeroyd. The philosophical significance of Mendeleev’s successful predictions of the properties of gallium and scandium. *Foundations of Chemistry*, 12(2):117–122, October 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9085-6>.

**vanBrakel:2010:CPN**

- [253] J. van Brakel. Chemistry and physics: no need for metaphysical glue. *Foundations of Chemistry*, 12(2):123–136, October 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9084-7>.

**Soentgen:2010:HPC**

- [254] Jens Soentgen. On the history and prehistory of CO<sub>2</sub>. *Foundations of Chemistry*, 12(2):137–148, October 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-009-9081-x>.

**Labarca:2010:WOD**

- [255] Martín Labarca and Olimpia Lombardi. Why orbitals do not exist? *Foundations of Chemistry*, 12(2):149–157, October 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9086-5>. See critical note [335].

**Lombardi:2010:MCP**

- [256] Olimpia Lombardi and Mario Castagnino. Matters are not so clear on the physical side. *Foundations of Chemistry*, 12(2):159–166, October 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9090-9>.

**Scerri:2010:Ec**

- [257] Eric Scerri. Editorial 36. *Foundations of Chemistry*, 12(3):167–169, November 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9099-0>; <http://link.springer.com/content/pdf/10.1007/s10698-010-9099-0.pdf>.

**Woods:2010:MMH**

- [258] Gordon T. Woods. Mendeleev, the man and his matrix: Dmitri Mendeleev, aspects of his life and work: was he a somewhat fortunate man? *Foundations of Chemistry*, 12(3):171–186, November 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9088-3>.

**Boyce:2010:BBL**

- [259] Conal Boyce. On the boundary between laboratory ‘givens’ and laboratory ‘tangibles’. *Foundations of Chemistry*, 12(3):187–202, November 2010. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9093-6>; <http://link.springer.com/content/pdf/10.1007/s10698-010-9093-6.pdf>.

**Llored:2010:MQC**

- [260] Jean-Pierre Llored. Mereology and quantum chemistry: the approximation of molecular orbital. *Foundations of Chemistry*, 12(3):203–221, November 2010. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9092-7>.

**Patterson:2010:ALB**

- [261] Gary D. Patterson. Les atomes: a landmark book in chemistry. *Foundations of Chemistry*, 12(3):223–233, November 2010. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9098-1>.

**Thyssen:2010:BRE**

- [262] Pieter Thyssen. Book review: Eric R. Scerri: *Selected papers on the periodic table*. *Foundations of Chemistry*, 12(3):235–238, November 2010. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9089-2>.

**Psarros:2010:BRK**

- [263] Nikos Psarros. Book review: Klaus Ruthenberg (ed): *Frantisek Wald: Essays 1891–1929*, Wald Press, Prague, 2009, 231 p. *Foundations of Chemistry*, 12(3):239–241, November 2010. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9097-2>.

**Scerri:2011:Ea**

- [264] Eric R. Scerri. Editorial 37. *Foundations of Chemistry*, 13(1):1–7, April 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9107-z>; <http://link.springer.com/content/pdf/10.1007/s10698-011-9107-z.pdf>. See comment [274].

**Anonymous:2011:ISP**

- [265] Anonymous. International Society for the Philosophy of Chemistry: summer symposium 2011 in Latin America. *Foundations of Chemistry*, 13(1):9, April 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9109-x>; <http://link.springer.com/content/pdf/10.1007/s10698-011-9109-x.pdf>.

**Bader:2011:NEP**

- [266] Richard F. W. Bader. On the non-existence of parallel universes in chemistry. *Foundations of Chemistry*, 13(1):11–37, April 2011. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9106-0>.

**Healy:2011:HCL**

- [267] Eamonn F. Healy. Heisenberg’s chemical legacy: resonance and the chemical bond. *Foundations of Chemistry*, 13(1):39–49, April 2011. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9104-2>.

**Pallo:2011:EIQ**

- [268] Gabor Pallo. Early impact of quantum physics on chemistry: George Hevesy’s work on rare earth elements and Michael Polanyi’s absorption theory. *Foundations of Chemistry*, 13(1):51–61, April 2011. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9105-1>.

**Harre:2011:MGC**

- [269] Rom Harré and Jean-Pierre Llored. Mereologies as the grammars of chemical discourses. *Foundations of Chemistry*, 13(1):63–76, April 2011. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9103-3>.

**Laing:2011:BRS**

- [270] Michael Laing. Book review: Sam Kean: *The disappearing spoon: and other true tales of madness, love, and the history of the world from the periodic table of the elements*. *Foundations of Chemistry*, 13(1):77, April 2011. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9101-x>; <http://link.springer.com/content/pdf/10.1007/s10698-010-9101-x.pdf>.

**Earley:2011:BRA**

- [271] Joseph E. Earley, Sr. Book review: Alan Chalmers: *The scientist’s atom and the philosopher’s stone: how science succeeded and philosophy failed to gain knowledge of atoms*. *Foundations of Chemistry*, 13(1):79–83, April 2011. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9102-9>.

**Scerri:2011:Eb**

- [272] Eric R. Scerri. Editorial 38. *Foundations of Chemistry*, 13(2):85–86, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9115-z>; <http://link.springer.com/content/pdf/10.1007/s10698-011-9115-z.pdf>.

**Ogilvie:2011:MOM**

- [273] J. F. Ogilvie. Is a molecular orbital measurable by means of tomographic imaging? *Foundations of Chemistry*, 13(2):87–91, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9113-1>.

**Sutcliffe:2011:CE**

- [274] Brian T. Sutcliffe and R. Guy Woolley. A comment on “Editorial 37”. *Foundations of Chemistry*, 13(2):93–95, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9110-4>. See [264].

**Vihalemm:2011:ACO**

- [275] Rein Vihalemm. The autonomy of chemistry: old and new problems. *Foundations of Chemistry*, 13(2):97–107, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9094-5>.

**Kidd:2011:ETK**

- [276] R. Garth Kidd. Elements of the third kind and the spin-dependent chemical force. *Foundations of Chemistry*, 13(2):109–119, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-010-9100-y>.

**Rayner-Canham:2011:IPT**

- [277] Geoff Rayner-Canham. Isodiagonality in the periodic table. *Foundations of Chemistry*, 13(2):121–129, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9108-y>.

**Pagni:2011:DSR**

- [278] Richard M. Pagni. Do the solvolysis reactions of secondary substrates occur by the  $S_N1$  or  $S_N2$  mechanism: or something else? *Foundations of Chemistry*, 13(2):131–143, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9111-3>.



**Fergusson:2011:HDN**

- [279] Jack E. Fergusson. The history of the discovery of nuclear fission. *Foundations of Chemistry*, 13(2):145–166, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9112-2>.

**Hojniak:2011:BRD**

- [280] Sandra D. Hojniak. Book review: David E. Fisher: *Much Ado about (Practically) Nothing. A History of the Noble Gases. Foundations of Chemistry*, 13(2):167–169, July 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9114-0>.

**Scerri:2011:Ec**

- [281] Eric Scerri. Editorial 39. *Foundations of Chemistry*, 13(3):171–172, October 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9138-5>; <http://link.springer.com/content/pdf/10.1007/s10698-011-9138-5.pdf>.

**Banchetti-Robino:2011:OTS**

- [282] Marina Paola Banchetti-Robino. Ontological tensions in sixteenth and seventeenth century chemistry: between mechanism and vitalism. *Foundations of Chemistry*, 13(3):173–186, October 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9126-9>.

**Harre:2011:DEF**

- [283] Rom Harré. Do explanation formats in elementary chemistry depend on agent causality? *Foundations of Chemistry*, 13(3):187–200, October 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9120-2>.

**Kim:2011:PCC**

- [284] Mi Gyung Kim. From phlogiston to caloric: chemical ontologies. *Foundations of Chemistry*, 13(3):201–222, October 2011. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9116-y>.

**Rayner-Canham:2011:RAT**

- [285] Geoff Rayner-Canham. Relationships among the transition elements. *Foundations of Chemistry*, 13(3):223–232, October 2011. CODEN

FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9117-x>.

**Restrepo:2011:CLP**

- [286] Guillermo Restrepo and José L. Villaveces. Chemistry, a lingua philosophica. *Foundations of Chemistry*, 13(3):233–249, October 2011. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9123-z>.

**Rayner-Canham:2011:BRA**

- [287] Marelene Rayner-Canham and Geoff Rayner-Canham. Book review: Anne-Marie Weidler Kubanek: *Nothing less than an adventure: Ellen Gleditsch and her life in science*. *Foundations of Chemistry*, 13(3):251–252, October 2011. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9119-8>; <http://link.springer.com/article/10.1007/s10698-011-9119-8>.

**Scerri:2012:Ea**

- [288] Eric R. Scerri. Editorial 40. *Foundations of Chemistry*, 14(1):1–2, April 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9148-y>; <http://link.springer.com/content/pdf/10.1007/s10698-012-9148-y.pdf>.

**Chalmers:2012:GE**

- [289] Alan Chalmers. Guest editorial. *Foundations of Chemistry*, 14(1):3–6, April 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9147-z>; <http://link.springer.com/content/pdf/10.1007/s10698-012-9147-z.pdf>.

**Klein:2012:OIC**

- [290] Ursula Klein. Objects of inquiry in classical chemistry: material substances. *Foundations of Chemistry*, 14(1):7–23, April 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9122-0>.

**Lefevre:2012:VCT**

- [291] Wolfgang Lefevre. Viewing chemistry through its ways of classifying. *Foundations of Chemistry*, 14(1):25–36, April 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9125-x>.

**Chalmers:2012:KOC**

- [292] Alan Chalmers. Klein on the origin of the concept of chemical compound. *Foundations of Chemistry*, 14(1):37–53, April 2012. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9121-1>.

**Hendry:2012:CSL**

- [293] Robin Findlay Hendry. Chemical substances and the limits of pluralism. *Foundations of Chemistry*, 14(1):55–68, April 2012. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9145-6>.

**Scerri:2012:WEW**

- [294] Eric R. Scerri. What is an element? What is the periodic table? And what does quantum mechanics contribute to the question? *Foundations of Chemistry*, 14(1):69–81, April 2012. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9124-y>.

**Simon:2012:PPP**

- [295] Jonathan Simon. The production of purity as the production of knowledge. *Foundations of Chemistry*, 14(1):83–96, April 2012. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9144-7>.

**Kauffman:2012:BRBa**

- [296] George B. Kauffman. Book review: Bernadette Bensaude-Vincent and Jonathan Simon: *Chemistry, the impure science*. *Foundations of Chemistry*, 14(1):97–98, April 2012. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9132-y>; <http://link.springer.com/article/10.1007/s10698-011-9132-y>.

**Kauffman:2012:BRI**

- [297] George B. Kauffman. Book review: István Hargittai: *Judging Edward Teller: A closer look at one of the most influential scientists of the twentieth century*. *Foundations of Chemistry*, 14(1):99–101, April 2012. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9133-x>.

**Anonymous:2012:ISP**

- [298] Anonymous. International Society for the Philosophy of Chemistry (ISPC) — Summer Symposium 2012. *Foundations of Chemistry*,

14(1):103–104, April 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-012-9150-4>; <http://link.springer.com/article/10.1007/s10698-012-9150-4>.

**Anonymous:2012:TIC**

- [299] Anonymous. Third international conference on the periodic table, Cusco, Peru, 2012. *Foundations of Chemistry*, 14(1):105–106, April 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-012-9149-x>; <http://link.springer.com/article/10.1007/s10698-012-9149-x>.

**Scerri:2012:Eb**

- [300] Eric Scerri. Editorial 41. *Foundations of Chemistry*, 14(2):107, July 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9157-x>; <http://link.springer.com/content/pdf/10.1007/s10698-012-9157-x.pdf>. See erratum [362].

**Thomas:2012:EC**

- [301] Gerald F. Thomas. The emancipation of chemistry. *Foundations of Chemistry*, 14(2):109–155, July 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9118-9>.

**Martins:2012:RMR**

- [302] Roberto de Andrade Martins. The rise of magnetochemistry from Ritter to Hurmuzescu. *Foundations of Chemistry*, 14(2):157–182, July 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9127-8>.

**Kauffman:2012:BRK**

- [303] George B. Kauffman. Book review: Kenneth J. Klabunde and Ryan M. Richards (Eds): *Nanoscale materials in chemistry*, 2nd edn. *Foundations of Chemistry*, 14(2):183–184, July 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9131-z>; <http://link.springer.com/article/10.1007/s10698-011-9131-z>.

**Kauffman:2012:BRA**

- [304] George B. Kauffman. Book review: Alexander Y. Grosberg and Alexei R. Khokhlov: *Giant molecules: here, there, and everywhere*, 2nd edn.

*Foundations of Chemistry*, 14(2):185–186, July 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9134-9>; <http://link.springer.com/article/10.1007/s10698-011-9134-9>.

**Kauffman:2012:BRBb**

- [305] George B. Kauffman. Book review: Bob B. He: *Two-dimensional X-ray diffraction*. *Foundations of Chemistry*, 14(2):187–188, July 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9135-8>; <http://link.springer.com/article/10.1007/s10698-011-9135-8>.

**Scerri:2012:Ec**

- [306] Eric Scerri. Editorial 42. *Foundations of Chemistry*, 14(3):189–190, October 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-012-9167-8>; <http://link.springer.com/article/10.1007/s10698-012-9167-8>.

**Harre:2012:I**

- [307] Rom Harré. Introduction. *Foundations of Chemistry*, 14(3):191, October 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9162-0>; <http://link.springer.com/content/pdf/10.1007/s10698-012-9162-0.pdf>.

**Ruthenberg:2012:PCI**

- [308] Klaus Ruthenberg and Rom Harré. Philosophy of chemistry as intercultural philosophy: Jaap van Brakel. *Foundations of Chemistry*, 14(3):193–203, October 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9161-1>.

**Lombardi:2012:PMV**

- [309] Olimpia Lombardi. Prigogine and the many voices of nature. *Foundations of Chemistry*, 14(3):205–219, October 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9140-y>.

**Banchetti-Robino:2012:OFF**

- [310] Marina Paola Banchetti-Robino. The ontological function of first-order and second-order corpuscles in the chemical philosophy of Robert Boyle:

the redintegration of potassium nitrate. *Foundations of Chemistry*, 14(3):221–234, October 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9159-8>.

**Earley:2012:NAP**

- [311] Joseph E. Earley, Sr. A neglected aspect of the puzzle of chemical structure: how history helps. *Foundations of Chemistry*, 14(3):235–243, October 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9146-0>.

**Llored:2012:EQC**

- [312] Jean-Pierre Llored. Emergence and quantum chemistry. *Foundations of Chemistry*, 14(3):245–274, October 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9163-z>.

**Scerri:2012:CWV**

- [313] Eric R. Scerri. A critique of Weisberg’s view on the periodic table and some speculations on the nature of classifications. *Foundations of Chemistry*, 14(3):275–284, October 2012. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9164-y>.

**Scerri:2013:Ea**

- [314] Eric Scerri. Editorial 43. *Foundations of Chemistry*, 15(1):1–2, April 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9188-y>; <http://link.springer.com/content/pdf/10.1007/s10698-013-9188-y.pdf>.

**Nelson:2013:WM**

- [315] Peter G. Nelson. What is the mole? *Foundations of Chemistry*, 15(1):3–11, April 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9185-1>.

**Leach:2013:CEB**

- [316] Mark R. Leach. Concerning electronegativity as a basic elemental property and why the periodic table is usually represented in its medium form. *Foundations of Chemistry*, 15(1):13–29, April 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9151-3>.

**Marchese:2013:PVD**

- [317] Francis T. Marchese. Periodicity, visualization, and design. *Foundations of Chemistry*, 15(1):31–55, April 2013. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9154-0>.

**Sima:2013:RRI**

- [318] Jozef Sima. Redox reactions: inconsistencies in their description. *Foundations of Chemistry*, 15(1):57–64, April 2013. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9143-8>.

**Lewowicz:2013:SVI**

- [319] Lucía Lewowicz and Olimpia Lombardi. Stuff versus individuals. *Foundations of Chemistry*, 15(1):65–77, April 2013. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9152-2>.

**Sarikaya:2013:VAS**

- [320] Mustafa Sarikaya. A view about the short histories of the mole and Avogadro's number. *Foundations of Chemistry*, 15(1):79–91, April 2013. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9128-7>.

**Blumenthal:2013:KCR**

- [321] Geoffrey Blumenthal. Kuhn and the chemical revolution: a re-assessment. *Foundations of Chemistry*, 15(1):93–101, April 2013. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9129-6>.

**Gomez:2013:SCE**

- [322] Pedro J. Sánchez Gómez. The semantics of chemical education: constructivism, externalism and the language of chemistry. *Foundations of Chemistry*, 15(1):103–116, April 2013. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9130-0>.

**Kauffman:2013:BRR**

- [323] George B. Kauffman. Book review: Richard P. Pohanish and Stanley A. Greene: *Wiley guide to chemical incompatibilities*, 3rd edn. *Foundations of Chemistry*, 15(1):117, April 2013. CODEN

FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-011-9136-7>; <http://link.springer.com/content/pdf/10.1007/s10698-011-9136-7.pdf> ■

**Kauffman:2013:BRB**

- [324] George B. Kauffman. Book review: Bassam Z. Shakhashiri: *Chemical demonstrations: a handbook for teachers of chemistry*, Volume 5. *Foundations of Chemistry*, 15(1):119–120, April 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9137-6>; <http://link.springer.com/article/10.1007/s10698-011-9137-6>.

**Kauffman:2013:BRT**

- [325] George B. Kauffman. Book review: Thomas B. Rauchfuss, Editor-in-Chief: *Inorganic Syntheses*, Volume 35. *Foundations of Chemistry*, 15(1):121–122, April 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9139-4>; <http://link.springer.com/article/10.1007/s10698-011-9139-4>.

**Scerri:2013:Eb**

- [326] Eric Scerri. Editorial 44. *Foundations of Chemistry*, 15(2):123, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9191-3>; <http://link.springer.com/content/pdf/10.1007/s10698-013-9191-3.pdf>.

**Restrepo:2013:E**

- [327] Guillermo Restrepo. Editorial. *Foundations of Chemistry*, 15(2):125–126, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9180-6>; <http://link.springer.com/content/pdf/10.1007/s10698-013-9180-6.pdf>.

**Harre:2013:MM**

- [328] Rom Harré and Jean-Pierre Llored. Molecules and mereology. *Foundations of Chemistry*, 15(2):127–144, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9181-5>.

**Rocke:2013:WDT**

- [329] Alan Rocke. What did “theory” mean to nineteenth-century chemists? *Foundations of Chemistry*, 15(2):145–156, July 2013. CODEN FOCHFL.



ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9184-2>. See comments [359] and response [360].

**Chamizo:2013:TOC**

- [330] José Antonio Chamizo. Technochemistry: One of the chemists' ways of knowing. *Foundations of Chemistry*, 15(2):157–170, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9179-z>.

**Mahootian:2013:PEC**

- [331] Farzad Mahootian. Paneth's epistemology of chemical elements in light of Kant's *Opus postumum*. *Foundations of Chemistry*, 15(2):171–184, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9182-4>.

**Restrepo:2013:MMC**

- [332] Guillermo Restrepo. To mathematize, or not to mathematize chemistry. *Foundations of Chemistry*, 15(2):185–197, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9183-3>.

**Nelson:2013:PFC**

- [333] Peter G. Nelson. Periodicity in the formulae of carbonyls and the electronic basis of the periodic table. *Foundations of Chemistry*, 15(2):199–208, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9155-z>.

**Gilead:2013:STQ**

- [334] Amihud Gilead. Shechtman's three question marks: possibility, impossibility, and quasicrystals. *Foundations of Chemistry*, 15(2):209–224, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9156-y>.

**Manafu:2013:IRP**

- [335] Alexandru Manafu. Internal realism and the problem of ontological autonomy: a critical note on Lombardi and Labarca. *Foundations of Chemistry*, 15(2):225–228, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9165-x>. See [255].

**Rayner-Canham:2013:PPG**

- [336] Geoff Rayner-Canham. Periodic patterns: the group ( $n$ ) and group ( $n+10$ ) linkage. *Foundations of Chemistry*, 15(2):229–237, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9169-6>.

**Kauffman:2013:BRG**

- [337] George B. Kauffman. Book review: George A. Olah, Alain Goeppert and G. K. Surya Prakash (eds): *Beyond oil and gas: the methanol economy*, 2nd updated and enlarged edition. *Foundations of Chemistry*, 15(2):239–240, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9141-x>; <http://link.springer.com/article/10.1007/s10698-011-9141-x>.

**Kauffman:2013:BRH**

- [338] George B. Kauffman. Book review: Herbert W. Roesky and Dietmar K. Kennepohl (eds): *Experiments in green and sustainable chemistry*. *Foundations of Chemistry*, 15(2):241–242, July 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-011-9142-9>; <http://link.springer.com/article/10.1007/s10698-011-9142-9>.

**Scerri:2013:Ec**

- [339] Eric Scerri. Editorial 45. *Foundations of Chemistry*, 15(3):243, October 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9195-z>; <http://link.springer.com/content/pdf/10.1007/s10698-013-9195-z.pdf>.

**Matta:2013:SIP**

- [340] Chérif F. Matta. Special issue: Philosophical aspects and implications of the quantum theory of atoms in molecules (QTAIM). *Foundations of Chemistry*, 15(3):245–251, October 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9194-0>; <http://link.springer.com/content/pdf/10.1007/s10698-013-9194-0.pdf>.

**Bader:2013:AMN**

- [341] Richard F. W. Bader and Chérif F. Matta. Atoms in molecules as non-overlapping, bounded, space-filling open quantum systems. *Foundations of Chemistry*, 15(3):253–276, October 2013. CODEN FOCHFL. ISSN

1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9153-1>.

**Eberhart:2013:TFC**

- [342] Mark E. Eberhart and Travis E. Jones. The two faces of chemistry: can they be reconciled? *Foundations of Chemistry*, 15(3):277–285, October 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9172-y>.

**Shahbazian:2013:BOQ**

- [343] Shant Shahbazian. Beyond the orthodox QTAIM: motivations, current status, prospects and challenges. *Foundations of Chemistry*, 15(3):287–302, October 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9170-0>.

**Sukumar:2013:AMM**

- [344] N. Sukumar. The atom in a molecule as a mereological construct in chemistry. *Foundations of Chemistry*, 15(3):303–309, October 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9171-z>.

**Hettema:2013:AQM**

- [345] Hinne Hettema. Austere quantum mechanics as a reductive basis for chemistry. *Foundations of Chemistry*, 15(3):311–326, October 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9173-x>. See comment [346].

**Shahbazian:2013:CAQ**

- [346] Shant Shahbazian. Comment on “Austere quantum mechanics as a reductive basis for chemistry”. *Foundations of Chemistry*, 15(3):327–334, October 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9177-6>. See [345] and reply [347].

**Hettema:2013:QRP**

- [347] Hinne Hettema. QTAIM as a research programme: a reply to Shahbazian. *Foundations of Chemistry*, 15(3):335–341, October 2013. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9193-1>. See [346].

**Scerri:2014:Eb**

- [348] Eric R. Scerri. Editorial 46. *Foundations of Chemistry*, 16(1):1–2, April 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9202-z>; <http://link.springer.com/content/pdf/10.1007/s10698-014-9202-z.pdf>.

**Causa:2014:ABM**

- [349] Mauro Causá, Andreas Savin, and Bernard Silvi. Atoms and bonds in molecules and chemical explanations. *Foundations of Chemistry*, 16(1):3–26, April 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9192-2>.

**Nalewajski:2014:ECE**

- [350] Roman F. Nalewajski. Entropic concepts in electronic structure theory. *Foundations of Chemistry*, 16(1):27–62, April 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9168-7>; <http://link.springer.com/content/pdf/10.1007/s10698-012-9168-7.pdf>.

**Joy pazadeh:2014:WDS**

- [351] Hamidreza Joy pazadeh and Shant Shahbazian. What does shape a topological atom? *Foundations of Chemistry*, 16(1):63–75, April 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9186-0>.

**Shahbazian:2014:LET**

- [352] Shant Shahbazian. Letter to the editor: Are there “really” atoms in molecules? *Foundations of Chemistry*, 16(1):77–84, April 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9187-z>.

**Scerri:2014:Eb**

- [353] Eric Scerri. Editorial 47. *Foundations of Chemistry*, 16(2):85–86, July 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9210-z>; <http://link.springer.com/content/pdf/10.1007/s10698-014-9210-z.pdf>.

**Ramirez-Solis:2014:FMM**

- [354] Alejandro Ramírez-Solís and Octavio Novaro. The first metals in Mendeleiev’s table: further arguments to place He above Ne and not

above be. *Foundations of Chemistry*, 16(2):87–91, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9174-9>.

**Boyce:2014:ULD**

- [355] Conal Boyce. Using logic to define the Aufbau–Hund–Pauli relation: a guide to teaching orbitals as a single, natural, unfragmented rule-set. *Foundations of Chemistry*, 16(2):93–106, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9176-7>; <http://link.springer.com/content/pdf/10.1007/s10698-012-9176-7.pdf>

**Villani:2014:SSC**

- [356] Giovanni Villani. Structured system in chemistry: comparison with mechanics and biology. *Foundations of Chemistry*, 16(2):107–123, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9178-0>.

**Marques:2014:ESI**

- [357] Carlos Alberto Marques and Adélio A. S. C. Machado. Environmental sustainability: implications and limitations to green chemistry. *Foundations of Chemistry*, 16(2):125–147, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9189-x>.

**Gilead:2014:PPS**

- [358] Amihud Gilead. Pure possibilities and some striking scientific discoveries. *Foundations of Chemistry*, 16(2):149–163, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9190-4>.

**Needham:2014:NCC**

- [359] Paul Needham. Nineteenth-century chemical theory: correction of a misunderstanding. *Foundations of Chemistry*, 16(2):165–167, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9198-9>. See [329] and response [360].

**Rocke:2014:RLE**

- [360] Alan Rocke. Response to a letter to the editor. *Foundations of Chemistry*, 16(2):169–170, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/>

accesspage/article/10.1007/s10698-013-9199-8; <http://link.springer.com/article/10.1007/s10698-013-9199-8>. See [359, 329].

**Kauffman:2014:BR**Ea

- [361] George B. Kauffman. Book review: Eric R. Scerri: *The periodic table: a very short introduction*. *Foundations of Chemistry*, 16(2):171–172, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-014-9206-8>; <http://link.springer.com/article/10.1007/s10698-014-9206-8>.

**Scerri:2014:EE**

- [362] Eric Scerri. Erratum to: Editorial 41. *Foundations of Chemistry*, 16(2):173, July 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-012-9166-9>; <http://link.springer.com/content/pdf/10.1007/s10698-012-9166-9.pdf>. See [300].

**Scerri:2014:Ec**

- [363] Eric R. Scerri. Editorial 48. *Foundations of Chemistry*, 16(3):175, October 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9213-9>; <http://link.springer.com/content/pdf/10.1007/s10698-014-9213-9.pdf>.

**Hernandez:2014:FMM**

- [364] Raymundo Hernández and Octavio Novaro. The first metals in Mendeleiev’s table: Part II. A new argument against the placement of hydrogen atop the alkali metal column. *Foundations of Chemistry*, 16(3):177–180, October 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9196-y>.

**Lombardi:2014:LCP**

- [365] Olimpia Lombardi. Linking chemistry with physics: arguments and counterarguments. *Foundations of Chemistry*, 16(3):181–192, October 2014. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-013-9197-x>. See reply [366].

**Hettema:2014:LCP**

- [366] Hinne Hettema. Linking chemistry with physics: a reply to Lombardi. *Foundations of Chemistry*, 16(3):193–200, October 2014. CODEN

FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9200-1>. See [365].

**Gilead:2014:CRI**

- [367] Amihud Gilead. Chain reactions, “impossible” reactions, and panenmentalist possibilities. *Foundations of Chemistry*, 16(3):201–214, October 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9201-0>.

**Bengoetxea:2014:SRC**

- [368] Juan Bautista Bengoetxea, Oliver Todt, and José Luis Luján. Similarity and representation in chemical knowledge practices. *Foundations of Chemistry*, 16(3):215–233, October 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9203-y>.

**Imyanitov:2014:ANF**

- [369] Naum S. Imyanitov. Adequacy of the new formulation of the periodic law when fundamental variations occur in blocks and periods. *Foundations of Chemistry*, 16(3):235–247, October 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9204-x>.

**Kauffman:2014:BRU**

- [370] George B. Kauffman. Book review: Ulf Lagerkvist: Erling Norrby (ed.): *The periodic table and a missed Nobel Prize*. *Foundations of Chemistry*, 16(3):249–251, October 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9205-9>.

**Kauffman:2014:BR Eb**

- [371] George B. Kauffman. Book review: Eric Scerri: *A tale of 7 elements*. *Foundations of Chemistry*, 16(3):253–256, October 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9207-7>.

**Kauffman:2014:BR Ec**

- [372] George B. Kauffman. Book review: Eric Scerri (ed): *30-Second elements: the 50 most significant elements, each explained in half a minute*. *Foundations of Chemistry*, 16(3):257–258, October 2014. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-014-9208-6>; <http://link.springer.com/article/10.1007/s10698-014-9208-6>.

**Scerri:2015:Ea**

- [373] Eric Scerri. Editorial 49. *Foundations of Chemistry*, 17(1):1–3, April 2015. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9230-3>; <http://link.springer.com/content/pdf/10.1007/s10698-015-9230-3.pdf>.

**Maar:2015:BCA**

- [374] Juergen Heinrich Maar and Eder João Lenardão. The Brazilian contribution of Alcindo Flores Cabral to the periodic classification. *Foundations of Chemistry*, 17(1):5–22, April 2015. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9223-2>.

**Jensen:2015:PLA**

- [375] William B. Jensen. The positions of lanthanum (actinium) and lutetium (lawrencium) in the periodic table: an update. *Foundations of Chemistry*, 17(1):23–31, April 2015. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9216-1>.

**deBerg:2015:FCE**

- [376] Kevin Charles de Berg. Foundations of and challenges to electrolyte chemistry. *Foundations of Chemistry*, 17(1):33–48, April 2015. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9219-y>.

**Garcia:2015:CSE**

- [377] Pio Garcia. Computer simulations and experiments: in vivo-in vitro conditions in biochemistry. *Foundations of Chemistry*, 17(1):49–65, April 2015. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9215-2>.

**DiGiacomo:2015:SCM**

- [378] Francesco Di Giacomo. On some characteristics of Marcus' work in the light of the history of science. *Foundations of Chemistry*, 17(1):67–78, April 2015. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9222-3>.

**Rulev:2015:PNB**

- [379] Alexander Yu. Rulev. Pegniochemistry as a new branch of the chemical science. *Foundations of Chemistry*, 17(1):79–86, April 2015. CODEN



FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9214-3>.

**Pallo:2015:BRJ**

- [380] Gábor Palló. Book review: Jean-Pierre Llored (ed.): *The philosophy of chemistry: practices, methodologies, and concepts*. *Foundations of Chemistry*, 17(1):87–89, April 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9209-5>.

**Scerri:2015:Eb**

- [381] Eric Scerri. Editorial 50. *Foundations of Chemistry*, 17(2):91–92, July 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9232-1>; <http://link.springer.com/content/pdf/10.1007/s10698-015-9232-1.pdf>.

**Barragan:2015:EKT**

- [382] Daniel Barragán. Essentials of kinetics and thermodynamics for understanding chemical oscillations. *Foundations of Chemistry*, 17(2):93–106, July 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9221-4>.

**Moretti:2015:ERP**

- [383] Giuliano Moretti. The "extent of reaction": a powerful concept to study chemical transformations at the first-year general chemistry courses. *Foundations of Chemistry*, 17(2):107–115, July 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9212-x>.

**Gambini:2015:QMS**

- [384] Rodolfo Gambini, Lucía Lewowicz, and Jorge Pullin. Quantum mechanics, strong emergence and ontological non-reducibility. *Foundations of Chemistry*, 17(2):117–127, July 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9224-1>.

**Khalilov:2015:SIC**

- [385] Leonard M. Khalilov. Symmetry, inertness and chirality in theory of chiral systems. *Foundations of Chemistry*, 17(2):129–135, July 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9231-2>.

**Best:2015:LRP**

- [386] Nicholas W. Best. Lavoisier's "reflections on phlogiston" I: against phlogiston theory. *Foundations of Chemistry*, 17(2):137–151, July 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9220-5>.

**Nelson:2015:MVL**

- [387] Peter G. Nelson. A modern version of Lewis's theory of valency. *Foundations of Chemistry*, 17(2):153–162, July 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9217-0>. See erratum [404].

**Tangde:2015:AHC**

- [388] Vijay M. Tangde. Advances in hadronic chemistry and its applications. *Foundations of Chemistry*, 17(2):163–179, July 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9218-z>.

**Scerri:2015:Ec**

- [389] Eric Scerri. Editorial 51. *Foundations of Chemistry*, 17(3):181, October 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9239-7>; <http://link.springer.com/content/pdf/10.1007/s10698-015-9239-7.pdf>.

**Llored:2015:GE**

- [390] Jean-Pierre Llored. Guest editorial. *Foundations of Chemistry*, 17(3):183–185, October 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9240-1>; <http://link.springer.com/content/pdf/10.1007/s10698-015-9240-1.pdf>.

**Schaming:2015:NAT**

- [391] Delphine Schaming and Hynd Remita. Nanotechnology: from the ancient time to nowadays. *Foundations of Chemistry*, 17(3):187–205, October 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9235-y>.

**Laurent:2015:OPE**

- [392] Brice Laurent. Operations for a problem of existence: dealing with the ontological uncertainty of nano substances. *Foundations of Chemistry*, 17

(3):207–224, October 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9233-0>.

**Lacour:2015:DRC**

- [393] Stéphanie Lacour, Sacha Loeve, Brice Laurent, and Virginie Albe. Deliberating responsibility: a collective contribution by the C’Nano IdF Nanoscience & Society Office. *Foundations of Chemistry*, 17(3):225–245, October 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9234-z>.

**Boeyens:2015:WMM**

- [394] Jan C. A. Boeyens. Wave-mechanical model for chemistry. *Foundations of Chemistry*, 17(3):247–262, October 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9225-0>.

**Hartman:2015:DWN**

- [395] JudithAnn R. Hartman and Eric A. Nelson. “Do we need to memorize that?” or cognitive science for chemists. *Foundations of Chemistry*, 17(3):263–274, October 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9226-z>.

**Downward:2015:SRT**

- [396] Michael Downward. Symmetry and representation in a three dimensional space. *Foundations of Chemistry*, 17(3):275–287, October 2015. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9227-y>.

**Scerri:2016:Ea**

- [397] Eric Scerri. Editorial 52. *Foundations of Chemistry*, 18(1):1–2, April 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-016-9254-3>; <http://link.springer.com/content/pdf/10.1007/s10698-016-9254-3.pdf>.

**Best:2016:LRP**

- [398] Nicholas W. Best. Lavoisier’s “reflections on phlogiston” II: on the nature of heat. *Foundations of Chemistry*, 18(1):3–13, April 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9236-x>.

**Nelson:2016:ITR**

- [399] Peter G. Nelson. Introducing the theory of relativity. *Foundations of Chemistry*, 18(1):15–19, April 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9247-7>; <http://link.springer.com/content/pdf/10.1007/s10698-015-9247-7.pdf>.

**Imyanitov:2016:DSC**

- [400] Naum S. Imyanitov. Dialectics and synergetics in chemistry. Periodic Table and oscillating reactions. *Foundations of Chemistry*, 18(1):21–56, April 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9248-6>.

**Salehzadeh:2016:SWO**

- [401] Sadegh Salehzadeh and Farahnaz Maleki. The 4s and 3d subshells: Which one fills first in progressing through the periodic table and which one fills first in any particular atom? *Foundations of Chemistry*, 18(1):57–65, April 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-016-9249-0>.

**Sima:2016:SRM**

- [402] Jozef Sima. Structure-related melting and boiling points of inorganic compounds. *Foundations of Chemistry*, 18(1):67–79, April 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9228-x>.

**Llored:2016:KGA**

- [403] Jean-Pierre Llored. Book review: Kostas Gavroglu and Ana Simões: *Neither physics nor chemistry. A history of quantum chemistry*. *Foundations of Chemistry*, 18(1):81–84, April 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-014-9211-y>.

**Nelson:2016:EMV**

- [404] Peter G. Nelson. Erratum to: A modern version of Lewis’s theory of valency. *Foundations of Chemistry*, 18(1):85, April 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9238-8>; <http://link.springer.com/content/pdf/10.1007/s10698-015-9238-8.pdf>. See [387].

**Scerri:2016:Eb**

- [405] Eric R. Scerri. Editorial 53. *Foundations of Chemistry*, 18(2):87, July 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-016-9256-1>; <http://link.springer.com/content/pdf/10.1007/s10698-016-9256-1.pdf>.

**Harre:2016:RTP**

- [406] Rom Harré. Realism and the turn to practice. *Foundations of Chemistry*, 18(2):89, July 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9245-9>; <http://link.springer.com/content/pdf/10.1007/s10698-015-9245-9.pdf>.

**Vihalemm:2016:CPP**

- [407] Rein Vihalemm. Chemistry and the problem of pluralism in science: an analysis concerning philosophical and scientific disagreements. *Foundations of Chemistry*, 18(2):91–102, July 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9241-0>.

**Banchetti-Robino:2016:VHH**

- [408] Marina Paola Banchetti-Robino. Van Helmont’s hybrid ontology and its influence on the chemical interpretation of spirit and ferment. *Foundations of Chemistry*, 18(2):103–112, July 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9243-y>.

**Muursepp:2016:CPSa**

- [409] Peeter Müürsepp. Chemistry as a practical science: Edward Caldin revisited. *Foundations of Chemistry*, 18(2):113–123, July 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9244-x>.

**Llored:2016:CPC**

- [410] Jean-Pierre Llored and Stéphane Sarrade. Connecting the philosophy of chemistry, green chemistry, and moral philosophy. *Foundations of Chemistry*, 18(2):125–152, July 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9242-z>.

**Imyanitov:2016:SFG**

- [411] Naum S. Imyanitov. Spiral as the fundamental graphic representation of the Periodic Law. Blocks of elements as the autonomic parts of the Periodic System. *Foundations of Chemistry*, 18(2):153–173, July 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-015-9246-8>.

**Kauffman:2016:AHZ**

- [412] George B. Kauffman and Laurie M. Kauffman. Ahmed H. Zewail: 4D visualization of matter: recent collected works. *Foundations of Chemistry*, 18(2):175–176, July 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-015-9237-9>; <http://link.springer.com/article/10.1007/s10698-015-9237-9>.

**Scerri:2016:Ec**

- [413] Eric Scerri. Editorial 54. *Foundations of Chemistry*, 18(3):177–178, October 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-016-9261-4>; <http://link.springer.com/content/pdf/10.1007/s10698-016-9261-4.pdf>.

**Siderer:2016:MPM**

- [414] Yona Siderer. In memory of Professor Masanori Kaji (8 February 1956–18 July 2016). *Foundations of Chemistry*, 18(3):179–181, October 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-016-9262-3>; <http://link.springer.com/article/10.1007/s10698-016-9262-3>.

**Gilead:2016:EEC**

- [415] Amihud Gilead. Eka-elements as chemical pure possibilities. *Foundations of Chemistry*, 18(3):183–194, October 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-016-9250-7>; <http://link.springer.com/article/10.1007/s10698-016-9250-7>.

**Weinstein:2016:PTM**

- [416] Mark Weinstein. The periodic table and the model of emerging truth. *Foundations of Chemistry*, 18(3):195–212, October 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-016-9252-1>

5; <http://link.springer.com/article/10.1007/s10698-016-9252-5>.

**Muursepp:2016:CPSb**

- [417] Peeter Mürsepp. Chemistry as a practical science (Edward Caldin revisited). *Foundations of Chemistry*, 18(3):213–223, October 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-016-9257-0>; <http://link.springer.com/article/10.1007/s10698-016-9257-0>.

**Fortin:2016:ID**

- [418] Sebastian Fortin, Olimpia Lombardi, and Juan Camilo Martínez González. Isomerism and decoherence. *Foundations of Chemistry*, 18(3):225–240, October 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-016-9251-6>; <http://link.springer.com/article/10.1007/s10698-016-9251-6>.

**Fisher:2016:DCO**

- [419] Grant Fisher. Diagnostics in computational organic chemistry. *Foundations of Chemistry*, 18(3):241–262, October 2016. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-016-9253-4>; <http://link.springer.com/article/10.1007/s10698-016-9253-4>.

**Scerri:2017:Ea**

- [420] Eric Scerri. Editorial 55. *Foundations of Chemistry*, 19(1):1, April 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-017-9279-2>; <http://link.springer.com/content/pdf/10.1007/s10698-017-9279-2.pdf>.

**Banchetti-Robino:2017:GEa**

- [421] Marina P. Banchetti-Robino. Guest editorial. *Foundations of Chemistry*, 19(1):3–4, April 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/article/10.1007/s10698-017-9276-5>; <http://link.springer.com/content/pdf/10.1007/s10698-017-9276-5.pdf>.

**DeLanda:2017:RHC**

- [422] Manuel DeLanda. Realism and the history of chemistry. *Foundations of Chemistry*, 19(1):5–15, April 2017. CODEN FOCHFL. ISSN 1386-

4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-017-9274-7>; <http://link.springer.com/article/10.1007/s10698-017-9274-7>.

**Fisher:2017:CDR**

- [423] Grant Fisher. Content, design, and representation in chemistry. *Foundations of Chemistry*, 19(1):17–28, April 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-017-9275-6>; <http://link.springer.com/article/10.1007/s10698-017-9275-6>.

**Prentner:2017:CCO**

- [424] Robert Prentner. Chemistry, context and the objects of thought. *Foundations of Chemistry*, 19(1):29–41, April 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-017-9273-8>; <http://link.springer.com/article/10.1007/s10698-017-9273-8>.

**Fortin:2017:RBC**

- [425] Sebastian Fortin, Olimpia Lombardi, and Juan Camilo Martínez González. The relationship between chemistry and physics from the perspective of Bohmian mechanics. *Foundations of Chemistry*, 19(1):43–59, April 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-017-9277-4>; <http://link.springer.com/article/10.1007/s10698-017-9277-4>.

**Ruthenberg:2017:EMF**

- [426] Klaus Ruthenberg and Juan Camilo Martínez González. Electronegativity and its multiple faces: persistence and measurement. *Foundations of Chemistry*, 19(1):61–75, April 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-017-9278-3>; <http://link.springer.com/article/10.1007/s10698-017-9278-3>.

**Villani:2017:CPS**

- [427] Giovanni Villani. Chemical perspective in the study of living beings: a systemic complexity approach. *Foundations of Chemistry*, 19(1):77–91, April 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-016-9258-z>; <http://link.springer.com/article/10.1007/s10698-016-9258-z>.



**Black:2017:BRP**

- [428] Roderick S. Black. Book review: Peter J. T. Morris: *The Matter Factory: A History of the Chemistry Laboratory. Foundations of Chemistry*, 19(1):93–94, April 2017. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <http://link.springer.com/accesspage/article/10.1007/s10698-016-9255-2>; <http://link.springer.com/article/10.1007/s10698-016-9255-2>.

**Scerri:2017:Eb**

- [429] Eric Scerri. Editorial 56. *Foundations of Chemistry*, 19(2):95–96, July 2017. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/content/pdf/10.1007/s10698-017-9288-1.pdf>.

**Ghibaudi:2017:CSM**

- [430] Elena Ghibaudi and Luigi Cerruti. Chemical substance, material, product, goods, waste: a changing ontology. *Foundations of Chemistry*, 19(2):97–123, July 2017. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic).

**Francisco:2017:CBB**

- [431] Nuno Francisco, Carla Morais, João C. Paiva, and Paula Gameiro. A colourful bond between art and chemistry. *Foundations of Chemistry*, 19(2):125–138, July 2017. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic).

**Vitas:2017:QRT**

- [432] Marko Vitas and Andrej Dobovisek. On a quest of reverse translation. *Foundations of Chemistry*, 19(2):139–155, July 2017. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic).

**Chamizo:2017:FCR**

- [433] José A. Chamizo. The fifth chemical revolution: 1973–1999. *Foundations of Chemistry*, 19(2):157–179, July 2017. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic).

**Scerri:2017:Ec**

- [434] Eric Scerri. Editorial 57. *Foundations of Chemistry*, 19(3):181, October 2017. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/content/pdf/10.1007/s10698-017-9294-3.pdf>.

**Banchetti-Robino:2017:GEb**

- [435] Marina P. Banchetti-Robino. Guest editorial. *Foundations of Chemistry*, 19(3):183–184, October 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/content/pdf/10.1007/s10698-017-9286-3.pdf>.

**Cordoba:2017:HHN**

- [436] Mariana Córdoba and Alfio Zambon. How to handle nanomaterials? The re-entry of individuals into the philosophy of chemistry. *Foundations of Chemistry*, 19(3):185–196, October 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic).

**Ochiai:2017:DMS**

- [437] Hirofumi Ochiai. Does a molecule have structure? *Foundations of Chemistry*, 19(3):197–207, October 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic).

**Seifert:2017:AAU**

- [438] Vanessa A. Seifert. An alternative approach to unifying chemistry with quantum mechanics. *Foundations of Chemistry*, 19(3):209–222, October 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/content/pdf/10.1007/s10698-017-9285-4.pdf>.

**Siderer:2017:UYT**

- [439] Yona Siderer. Udagawa Youan’s (1798–1846) translation of light and heat reactions in his book *Kouso Seimika*. *Foundations of Chemistry*, 19(3):223–240, October 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic).

**Blumenthal:2017:DPW**

- [440] Geoffrey Blumenthal and James Ladyman. The development of problems within the phlogiston theories, 1766–1791. *Foundations of Chemistry*, 19(3):241–280, October 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/content/pdf/10.1007/s10698-017-9289-0.pdf>.

**Wray:2017:NPS**

- [441] K. Brad Wray. A new philosophy of science from the history of arcane natural science. *Foundations of Chemistry*, 19(3):281–285, October 2017. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic).

**Scerri:2018:Ea**

- [442] Eric Scerri. Editorial 58. *Foundations of Chemistry*, 20(1):1–2, April 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9309-8>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9309-8.pdf>.

**Dolino:2018:CCS**

- [443] Le Grande O. Dolino. Chemistry as a creative science. *Foundations of Chemistry*, 20(1):3–13, April 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9272-9>.

**Johnson:2018:VL**

- [444] David A. Johnson and Peter G. Nelson. Valencies of the lanthanides. *Foundations of Chemistry*, 20(1):15–27, April 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9291-6>; <https://link.springer.com/content/pdf/10.1007/s10698-017-9291-6.pdf>. See erratum [445] and correction [467].

**Johnson:2018:EVL**

- [445] David A. Johnson and Peter G. Nelson. Erratum to: Valencies of the lanthanides. *Foundations of Chemistry*, 20(1):29–30, April 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9296-1>; <https://link.springer.com/content/pdf/10.1007/s10698-017-9296-1.pdf>. See [444].

**Iga:2018:BPS**

- [446] Dumitru Petru Iga. Basic principles of the strategy concerning the elucidation of configuration of chiral centers of linear isomeric aldohexoses. *Foundations of Chemistry*, 20(1):31–41, April 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9292-5>.

**Hefferlin:2018:AMP**

- [447] Ray Hefferlin. An allegory on molecular periodicity. *Foundations of Chemistry*, 20(1):43–49, April 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9295-2>.

**Zambon:2018:RPS**

- [448] Alfio Zambon. A representation of the periodic system based on atomic-number triads. *Foundations of Chemistry*, 20(1):51–74, April 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9297-0>.

**Seeman:2018:MBI**

- [449] Jeffrey I. Seeman. Moving beyond insularity in the history, philosophy, and sociology of chemistry. *Foundations of Chemistry*, 20(1):75–86, April 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9290-7>; <https://link.springer.com/content/pdf/10.1007/s10698-017-9290-7.pdf>. See response [461].

**Scerri:2018:Eb**

- [450] Eric Scerri. Editorial 59. *Foundations of Chemistry*, 20(2):87–88, July 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9317-8>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9317-8.pdf>.

**Villani:2018:OPC**

- [451] Giovanni Villani, Elena Ghibaudi, and Luigi Cerruti. The orbital: a pivotal concept in the relationship between chemistry and physics? A comment to the work by Fortin and coauthors. *Foundations of Chemistry*, 20(2):89–97, July 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9293-4>.

**Hodder:2018:PTR**

- [452] Peter Hodder. The periodic table: revelation by quest rather than by revolution. *Foundations of Chemistry*, 20(2):99–110, July 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9298-z>.

**Stewart:2018:TSR**

- [453] Philip J. Stewart. Tetrahedral and spherical representations of the periodic system. *Foundations of Chemistry*, 20(2):111–120, July 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9299-y>; <https://link.springer.com/content/pdf/10.1007/s10698-017-9299-y.pdf>.

**Murphy:2018:EIR**

- [454] Mark A. Murphy. Early industrial roots of green chemistry and the history of the BHC ibuprofen process invention and its quality connection. *Foundations of Chemistry*, 20(2):121–165, July 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9300-9>; <https://link.springer.com/content/pdf/10.1007/s10698-017-9300-9.pdf>.

**Scerri:2018:Ec**

- [455] E. R. Scerri. Editorial 60. *Foundations of Chemistry*, 20(3):167–168, October 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9322-y>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9322-y.pdf>.

**Blumenthal:2018:TCC**

- [456] Geoffrey Blumenthal and James Ladyman. Theory comparison and choice in chemistry, 1766–1791. *Foundations of Chemistry*, 20(3):169–189, October 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9301-8>; <https://link.springer.com/content/pdf/10.1007/s10698-017-9301-8.pdf>.

**Grochala:2018:PHN**

- [457] Wojciech Grochala. On the position of helium and neon in the Periodic Table of Elements. *Foundations of Chemistry*, 20(3):191–207, October 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9302-7>; <https://link.springer.com/content/pdf/10.1007/s10698-017-9302-7.pdf>.

**Wray:2018:ANR**

- [458] K. Brad Wray. The atomic number revolution in chemistry: a Kuhnian analysis. *Foundations of Chemistry*, 20(3):209–217, October 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-017-9303-6>.

**Seeman:2018:MSI**

- [459] Jeffrey I. Seeman. From “multiple simultaneous independent discoveries” to the theory of “multiple simultaneous independent errors”: a conduit in science. *Foundations of Chemistry*, 20(3):219–249, October 2018. CODEN

FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9304-0>.

**Petrusevski:2018:TPH**

- [460] Vladimir M. Petrusevski and Julijana Cvetković. On the ‘true position’ of hydrogen in the Periodic Table. *Foundations of Chemistry*, 20(3):251–260, October 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9306-y>.

**Fortin:2018:LUB**

- [461] Sebastian Fortin, Olimpia Lombardi, and Juan Camilo Martínez González. Let us build better boats: an answer to Jeffrey Seeman’s “Moving beyond insularity in the history, philosophy, and sociology of chemistry”. *Foundations of Chemistry*, 20(3):261–264, October 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9307-x>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9307-x.pdf>. See [449].

**Malinen:2018:CCB**

- [462] KelleyAnne Malinen and Chérif F. Matta. “Climate change” and the “butterfly effect” in an eighteenth century monograph. *Foundations of Chemistry*, 20(3):265–268, October 2018. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9305-z>.

**Scerri:2019:Ea**

- [463] Eric Scerri. Editorial 61. *Foundations of Chemistry*, 21(1):1–2, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09335-6>; <https://link.springer.com/content/pdf/10.1007/s10698-019-09335-6.pdf>.

**Stewart:2019:MPS**

- [464] Philip J. Stewart. Mendeleev’s predictions: success and failure. *Foundations of Chemistry*, 21(1):3–9, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9312-0>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9312-0.pdf>.

**Chamizo:2019:ACR**

- [465] José A. Chamizo. About continuity and rupture in the history of chemistry: the fourth chemical revolution (1945–1966). *Foundations of Chemistry*, 21(1):11–29, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9308-9>.

**Gonzalez:2019:WMS**

- [466] Juan Camilo Martínez González, Sebastian Fortin, and Olimpia Lombardi. Why molecular structure cannot be strictly reduced to quantum mechanics. *Foundations of Chemistry*, 21(1):31–45, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9310-2>.

**Johnson:2019:CVL**

- [467] David A. Johnson and Peter G. Nelson. Correction to: Valencies of the lanthanides. *Foundations of Chemistry*, 21(1):47–48, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9311-1>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9311-1.pdf>. See [444].

**Fortin:2019:GEI**

- [468] Sebastian Fortin, Camilo Martinez Gonzalez, Alfio Zambon, and Waldmir Araujo Neto. Guest editorial: ISPC 2015 special issue. *Foundations of Chemistry*, 21(1):49–50, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09336-5>; <https://link.springer.com/content/pdf/10.1007/s10698-019-09336-5.pdf>.

**Banchetti-Robino:2019:FMB**

- [469] Marina Paola Banchetti-Robino. The function of microstructure in Boyle’s chemical philosophy: ‘chymical atoms’ and structural explanation. *Foundations of Chemistry*, 21(1):51–59, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-09326-z>.

**Scerri:2019:FIC**

- [470] Eric R. Scerri. Five ideas in chemical education that must die. *Foundations of Chemistry*, 21(1):61–69, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-09327-y>.

**Accorinti:2019:IMC**

- [471] Hernán Lucas Accorinti. Incompatible models in chemistry: the case of electronegativity. *Foundations of Chemistry*, 21(1):71–81, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-09328-x>.

**Polzella:2019:RES**

- [472] María Silvia Polzella and Penélope Lodeyro. Re-evaluating semi-empirical computer simulations in quantum chemistry. *Foundations of Chemistry*, 21(1):83–95, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-09329-w>.

**Gonzalez:2019:POI**

- [473] Juan Camilo Martínez González. The problem of optical isomerism and the interpretation of quantum mechanics. *Foundations of Chemistry*, 21(1):97–107, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-09330-3>.

**Martins:2019:EMM**

- [474] Roberto de Andrade Martins. Émile Meyerson and mass conservation in chemical reactions: a priori expectations versus experimental tests. *Foundations of Chemistry*, 21(1):109–124, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-09331-2>.

**Arriaga:2019:NCP**

- [475] Jesus Alberto Jaimes Arriaga, Sebastian Fortin, and Olimpia Lombardi. A new chapter in the problem of the reduction of chemistry to physics: the Quantum Theory of Atoms in Molecules. *Foundations of Chemistry*, 21(1):125–136, April 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-09332-1>.

**Scerri:2019:Eb**

- [476] Eric Scerri. Editorial 62. *Foundations of Chemistry*, 21(2):137–138, July 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09339-2>; <https://link.springer.com/content/pdf/10.1007/s10698-019-09339-2.pdf>.



**Wray:2019:WMM**

- [477] K. Brad Wray. What to make of Mendeleev's predictions? *Foundations of Chemistry*, 21(2):139–143, July 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9313-z>.

**Stewart:2019:GIR**

- [478] Philip J. Stewart. Getting it right is not equivalent to getting it wrong. *Foundations of Chemistry*, 21(2):145–146, July 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9316-9>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9316-9.pdf>.

**Blumenthal:2019:PVC**

- [479] Geoffrey Blumenthal. Priestley's views on the composition of water and related airs. *Foundations of Chemistry*, 21(2):147–178, July 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9314-y>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9314-y.pdf>.

**Nelson:2019:WCM**

- [480] Peter G. Nelson. What is chemistry that I may teach it? *Foundations of Chemistry*, 21(2):179–191, July 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9315-x>; <https://link.springer.com/content/pdf/10.1007/s10698-018-9315-x.pdf>.

**Liu:2019:RCE**

- [481] Runzhan Liu, Guoyong Mao, and Ning Zhang. Research of chemical elements and chemical bonds from the view of complex network. *Foundations of Chemistry*, 21(2):193–206, July 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9318-7>.

**Suarez:2019:NTN**

- [482] Rosana del P. Suárez. The network theory: a new language for speaking about chemical elements relations through stoichiometric binary compounds. *Foundations of Chemistry*, 21(2):207–220, July 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9319-6>.

**Quilez:2019:HEA**

- [483] Juan Quílez. A historical/epistemological account of the foundation of the key ideas supporting chemical equilibrium theory. *Foundations of Chemistry*, 21(2):221–252, July 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9320-0>.

**Scerri:2019:E**

- [484] Eric Scerri. Editorial 63. *Foundations of Chemistry*, 21(3):253–254, October 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09341-8>; <https://link.springer.com/content/pdf/10.1007/s10698-019-09341-8.pdf>.

**Imyanitov:2019:DPT**

- [485] Naum S. Imyanitov. Does the period table appear doubled? Two variants of division of elements into two subsets. Internal and secondary periodicity. *Foundations of Chemistry*, 21(3):255–284, October 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9321-z>.

**Gilead:2019:FLP**

- [486] Amihud Gilead. Further light on the philosophical significance of Mackay’s theoretical discovery of crystalline pure possibilities. *Foundations of Chemistry*, 21(3):285–296, October 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-9323-x>.

**Pisano:2019:TFP**

- [487] Raffaele Pisano, Abdelkader Anakkar, Emilio Marco Pellegrino, and Maxime Nagels. Thermodynamic foundations of physical chemistry: reversible processes and thermal equilibrium into the history. *Foundations of Chemistry*, 21(3):297–323, October 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-018-09324-1>.

**Nelson:2019:SMI**

- [488] Peter G. Nelson. Statistical mechanical interpretation of temperature. *Foundations of Chemistry*, 21(3):325–331, October 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09337-4>; <https://link.springer.com/content/pdf/10.1007/s10698-019-09337-4.pdf>

**Santana:2019:MMW**

- [489] Carlos Santana. Mineral misbehavior: why mineralogists don't deal in natural kinds. *Foundations of Chemistry*, 21(3):333–343, October 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09338-3>.

**StGermain:2019:GVC**

- [490] Elijah St. Germain. Giovanni Villani: Chemistry: A systemic complexity science. *Foundations of Chemistry*, 21(3):345–348, October 2019. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09340-9>.

**Scerri:2020:Ea**

- [491] Eric Scerri. Editorial 64. *Foundations of Chemistry*, 22(1):1–2, April 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09360-w>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09360-w.pdf>.

**Stewart:2020:THT**

- [492] Philip J. Stewart. From telluric helix to telluric remix. *Foundations of Chemistry*, 22(1):3–14, April 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09334-7>; <https://link.springer.com/content/pdf/10.1007/s10698-019-09334-7.pdf>.

**Seifert:2020:RID**

- [493] Vanessa A. Seifert. The role of idealisations in describing an isolated molecule. *Foundations of Chemistry*, 22(1):15–29, April 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09342-7>; <https://link.springer.com/content/pdf/10.1007/s10698-019-09342-7.pdf>.

**Friend:2020:BFL**

- [494] Michèle Friend. The beginnings of a formal language for conceptual analysis of processes in macro-chemistry. *Foundations of Chemistry*, 22(1):31–42, April 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09343-6>.

**Price:2020:MTC**

- [495] Justin Price. Model transfer and conceptual progress: tales from chemistry and biology. *Foundations of Chemistry*, 22(1):43–57, April 2020. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09344-5>.

**Buyse:2020:BSG**

- [496] Filip A. A. Buyse. Boyle, Spinoza and Glauber: on the philosophical redintegration of saltpeter —a reply to Antonio Clericuzio. *Foundations of Chemistry*, 22(1):59–76, April 2020. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09345-4>.

**Ochiai:2020:OSA**

- [497] Hirofumi Ochiai. Overcoming skepticism about molecular structure by developing the concept of affordance. *Foundations of Chemistry*, 22(1):77–86, April 2020. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09349-0>.

**Eaton:2020:WSW**

- [498] Gareth R. Eaton. Whom should we credit for the discovery of isotopes? *Foundations of Chemistry*, 22(1):87–98, April 2020. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09347-2>.

**Dias:2020:TCB**

- [499] Jerry Ray Dias. Teaching of chemistry before and after the periodic table. *Foundations of Chemistry*, 22(1):99–106, April 2020. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09354-8>.

**Matta:2020:TSE**

- [500] Chérif F. Matta, Olimpia Lombardi, and Jesús Jaimes Arriaga. Two-step emergence: the quantum theory of atoms in molecules as a bridge between quantum mechanics and molecular chemistry. *Foundations of Chemistry*, 22(1):107–129, April 2020. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09352-w>.

**Levere:2020:PGI**

- [501] Trevor H. Levere. Pere Grapí: Inspiring air: a history of air-related science. *Foundations of Chemistry*, 22(1):131–133, April 2020. CODEN

FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09351-6>.

**Scerri:2020:Eb**

- [502] Eric Scerri. Editorial 65. *Foundations of Chemistry*, 22(2):135–136, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09374-4>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09374-4.pdf>.

**Wray:2020:RDN**

- [503] K. Brad Wray and Line Edslev Andersen. Reporting the discovery of new chemical elements: working in different worlds, only 25 years apart. *Foundations of Chemistry*, 22(2):137–146, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09348-1>.

**Lalvani:2020:CLC**

- [504] Haresh Lalvani. 4D-cubic lattice of chemical elements. *Foundations of Chemistry*, 22(2):147–194, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09350-7>. See correction [505].

**Lalvani:2020:CCL**

- [505] Haresh Lalvani. Correction to: 4D-cubic lattice of chemical elements. *Foundations of Chemistry*, 22(2):195, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09353-9>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09353-9.pdf>. See [504].

**Campbell:2020:HMI**

- [506] Chris Campbell and Karoliina Pulkkinen. How Mendeleev issued his predictions: comment on Andrea Woody. *Foundations of Chemistry*, 22(2):197–215, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09355-7>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09355-7.pdf>.

**Vernon:2020:OMN**

- [507] René E. Vernon. Organising the metals and nonmetals. *Foundations of Chemistry*, 22(2):217–233, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/>

article/10.1007/s10698-020-09356-6; <https://link.springer.com/content/pdf/10.1007/s10698-020-09356-6.pdf>.

**Samanez:2020:BPS**

- [508] Julio Antonio Gutiérrez Samanez. Binódic periodic system: a mathematical approach. *Foundations of Chemistry*, 22(2):235–266, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09359-3>.

**Hagino:2020:NPT**

- [509] K. Hagino and Y. Maeno. A nuclear periodic table. *Foundations of Chemistry*, 22(2):267–273, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09365-5>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09365-5.pdf>.

**Emsley:2020:EC**

- [510] John Emsley. Elements of chemistry. *Foundations of Chemistry*, 22(2):275–277, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09366-4>.

**Ghibaudi:2020:SST**

- [511] Elena Ghibaudi, Luigi Cerruti, and Giovanni Villani. Structure, shape, topology: entangled concepts in molecular chemistry. *Foundations of Chemistry*, 22(2):279–307, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09333-8>.

**Taber:2020:CCC**

- [512] Keith S. Taber. Conceptual confusion in the chemistry curriculum: exemplifying the problematic nature of representing chemical concepts as target knowledge. *Foundations of Chemistry*, 22(2):309–334, July 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-019-09346-3>; <https://link.springer.com/content/pdf/10.1007/s10698-019-09346-3.pdf>.

**Tandon:2020:SAE**

- [513] Hiteshi Tandon, Tanmoy Chakraborty, and Vandana Suhag. A scale of atomic electronegativity in terms of atomic nucleophilicity index. *Foundations of Chemistry*, 22(2):335–346, July 2020. CODEN FOCHFL. ISSN

1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09358-4>.

**Scerri:2020:Ec**

- [514] Eric Scerri. Editorial 66. *Foundations of Chemistry*, 22(3):347, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09386-0>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09386-0.pdf>.

**Ghibaudi:2020:GE**

- [515] Elena Ghibaudi and Luigi Cerruti. Guest editorial. *Foundations of Chemistry*, 22(3):349–351, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09385-1>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09385-1.pdf>.

**Sukumar:2020:OST**

- [516] N. Sukumar. Ontological status of time in chemistry. *Foundations of Chemistry*, 22(3):353–361, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09370-8>.

**Santos:2020:RCA**

- [517] Gil Santos, Gabriel Vallejos, and Davide Vecchi. A relational-constructionist account of protein macrostructure and function. *Foundations of Chemistry*, 22(3):363–382, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09373-5>.

**Gini:2020:QSP**

- [518] Giuseppina Gini. The QSAR similarity principle in the deep learning era: Confirmation or revision? *Foundations of Chemistry*, 22(3):383–402, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09380-6>.

**Ruthenberg:2020:CP**

- [519] Klaus Ruthenberg and Ave Mets. Chemistry is pluralistic. *Foundations of Chemistry*, 22(3):403–419, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09378-0>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09378-0.pdf>.

**Drago:2020:NDR**

- [520] Antonino Drago. A new definition of reduction between two scientific theories: no reduction of chemistry to quantum mechanics. *Foundations of Chemistry*, 22(3):421–445, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09377-1>.

**Hijmans:2020:HIU**

- [521] Sarah Hijmans and Jean-Pierre Llored. How to investigate the underpinnings of sciences? The case of the element chlorine. *Foundations of Chemistry*, 22(3):447–456, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09372-6>.

**Ochiai:2020:UMS**

- [522] Hirofumi Ochiai. Understanding molecular structure requires constructive realism. *Foundations of Chemistry*, 22(3):457–465, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09362-8>.

**Zerecero:2020:MMS**

- [523] Gabriela García Zerecero. Molecular models and scientific realism. *Foundations of Chemistry*, 22(3):467–476, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09363-7>.

**Sereno:2020:PAP**

- [524] Sergio Gabriele Maria Sereno. Prediction, accommodation and the periodic table: a reappraisal. *Foundations of Chemistry*, 22(3):477–488, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09371-7>.

**Headley:2020:PNK**

- [525] Clevis Headley. Philosophy, natural kinds, microstructuralism, and the (mis)use of chemical examples: intimacy versus integrity as orientations towards chemical practice. *Foundations of Chemistry*, 22(3):489–500, October 2020. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09368-2>.



**Scerri:2021: Ea**

- [526] Eric Scerri. Editorial 67. *Foundations of Chemistry*, 23(1):1–2, April 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09397-5>; <https://link.springer.com/content/pdf/10.1007/s10698-021-09397-5.pdf>.

**Escribano-Cabeza:2021: CDTb**

- [527] Miguel Escribano-Cabeza. Chemistry and dynamics in the thought of G. W. Leibniz II. *Foundations of Chemistry*, 23(1):3–16, April 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09375-3>.

**DiGiacomo:2021: ETC**

- [528] Francesco Di Giacomo. Early theoretical chemistry: Plato’s chemistry in Timaeus. *Foundations of Chemistry*, 23(1):17–30, April 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09364-6>.

**Gilead:2021: CAM**

- [529] Amihud Gilead. A comment about the meaning and significance of life in the light of generalized crystallography. *Foundations of Chemistry*, 23(1):31–40, April 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09367-3>.

**Grochala:2021: WCA**

- [530] Wojciech Grochala. Watch the colors: or about qualitative thinking in chemistry. *Foundations of Chemistry*, 23(1):41–58, April 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09369-1>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09369-1.pdf>.

**Healy:2021: OCR**

- [531] Eamonn F. Healy. Organic chemistry as representation. *Foundations of Chemistry*, 23(1):59–68, April 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09379-z>.

**Muursepp:2021: CBS**

- [532] Peeter Mürsepp, Gulzhikhan Nuryseva, Aliya Ramazanova, and Zhamilya Amirkulova. Chemistry as the basic science. *Foundations of Chem-*

*istry*, 23(1):69–83, April 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09357-5>.

**Quilez:2021:ETK**

- [533] Juan Quílez. On the early thermodynamic and kinetic deductions of the equilibrium constant equation. *Foundations of Chemistry*, 23(1):85–103, April 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09376-2>.

**Syropoulos:2021:VC**

- [534] Apostolos Syropoulos. On vague chemistry. *Foundations of Chemistry*, 23(1):105–113, April 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09383-3>.

**Zwart:2021:RPL**

- [535] Hub Zwart. Revolutionary poetry and liquid crystal chemistry: Herman Gorter, Ada Prins and the interface between literature and science. *Foundations of Chemistry*, 23(1):115–132, April 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09381-5>; <https://link.springer.com/content/pdf/10.1007/s10698-020-09381-5.pdf>.

**Scerri:2021:BRC**

- [536] Eric R. Scerri. Book review: Charles S. McCaw: *Orbitals with applications in atomic spectra*, 2nd edition. *Foundations of Chemistry*, 23(1):133–134, April 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09388-y>.

**Scerri:2021:Eb**

- [537] Eric Scerri. Editorial 68. *Foundations of Chemistry*, 23(2):135–136, July 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09407-6>.

**Escribano-Cabeza:2021:CDTa**

- [538] Miguel Escribano-Cabeza. Chemistry and dynamics in the thought of G. W. Leibniz I. *Foundations of Chemistry*, 23(2):137–153, July 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09382-4>.

**Vernon:2021:LCG**

- [539] René E. Vernon. The location and composition of Group 3 of the periodic table. *Foundations of Chemistry*, 23(2):155–197, July 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09384-2>. See correction [540].

**Vernon:2021:CLC**

- [540] René E. Vernon. Correction to: The location and composition of Group 3 of the periodic table. *Foundations of Chemistry*, 23(2):199, July 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09390-4>. See [539].

**Maeno:2021:TRT**

- [541] Yoshiteru Maeno, Kouichi Hagino, and Takehiko Ishiguro. Three related topics on the periodic tables of elements. *Foundations of Chemistry*, 23(2):201–214, July 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09387-z>.

**Marks:2021:MR**

- [542] E. G. Marks and J. A. Marks. Mendeleev revisited. *Foundations of Chemistry*, 23(2):215–223, July 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09398-4>. See comment [557].

**Lightfield:2021:LAC**

- [543] Ceth Lightfield. Logics for algorithmic chemistries. *Foundations of Chemistry*, 23(2):225–237, July 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09391-3>.

**Neuss:2021:PEE**

- [544] Geoffrey R. H. Neuss. A problem with explaining the electron configuration of scandium. *Foundations of Chemistry*, 23(2):239–245, July 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09392-2>.

**Scerri:2021:RGN**

- [545] Eric Scerri. Response to Geoffrey Neuss on how to teach the 4s and 3d orbital conundrum. *Foundations of Chemistry*, 23(2):247–251, July 2021.

CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09395-7>.

**deBerg:2021:ADA**

- [546] Kevin C. de Berg. An analysis of the difficulties associated with determining that a reaction in chemical equilibrium is incomplete. *Foundations of Chemistry*, 23(2):253–275, July 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09393-1>.

**Dunmur:2021:LCC**

- [547] David Dunmur. Liquid crystal chemistry and poetry. *Foundations of Chemistry*, 23(2):277–287, July 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09394-0>.

**Chalmers:2021:RMP**

- [548] Alan Chalmers. Review of Marina Paola Banchetti-Robino, *The chemical philosophy of Robert Boyle: mechanicism, chymical atoms and emergence*. Pp. x + 196, Oxford: Oxford University Press, 2020. *Foundations of Chemistry*, 23(2):289–291, July 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09399-3>.

**Scerri:2021:BRG**

- [549] Eric Scerri. Book review: Geoff Rayner-Canham: *The periodic table: past present, and future*. *Foundations of Chemistry*, 23(2):293–295, July 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-020-09389-x>.

**Scerri:2021:Ec**

- [550] Eric Scerri. Editorial 69. *Foundations of Chemistry*, 23(3):297–298, October 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09413-8>.

**Marques:2021:IVG**

- [551] Carlos Alberto Marques and Adelio A. S. C. Machado. An integrated vision of the Green Chemistry evolution along 25 years. *Foundations of Chemistry*, 23(3):299–328, October 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09396-6>.

**Silverberg:2021:WOS**

- [552] Lee J. Silverberg. What is an organic substance? *Foundations of Chemistry*, 23(3):329–336, October 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09400-z>.

**Pisano:2021:CPE**

- [553] Raffaele Pisano, Emilio Marco Pellegrino, and Maxime Nagels. Conceptual polymorphism of entropy into the history: extensions of the second law of thermodynamics towards statistical physics and chemistry during nineteenth–twentieth centuries. *Foundations of Chemistry*, 23(3):337–378, October 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09401-y>.

**Fortin:2021:PMS**

- [554] Sebastian Fortin and Olimpia Lombardi. Is the problem of molecular structure just the quantum measurement problem? *Foundations of Chemistry*, 23(3):379–395, October 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09402-x>.

**Nelson:2021:STC**

- [555] Peter G. Nelson. A simple treatment of chemical equilibrium. *Foundations of Chemistry*, 23(3):397–405, October 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09404-9>.

**Weber:2021:QMA**

- [556] Erik Weber, Merel Lefevre, and Kristian Gonzalez Barman. Quantum mechanical atom models, legitimate explanations and mechanisms. *Foundations of Chemistry*, 23(3):407–429, October 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09408-5>.

**Petrusevski:2021:BCM**

- [557] Vladimir M. Petrusevski. A brief comment on ‘Mendeleev Revisited’ by Marks & Marks (foundations of chemistry, <https://doi.org/10.1007/s10698-021-09398-4>). *Foundations of Chemistry*, 23(3):431–432, October 2021. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09411-w>. See [542].

**Taber:2021:MSP**

- [558] Keith S. Taber. Making sense of a pedagogic text. *Foundations of Chemistry*, 23(3):433–457, October 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09405-8>.

**Aduriz-Bravo:2021:ICT**

- [559] Agustín Adúriz-Bravo. Improving chemistry teacher education with the philosophy of chemistry. *Foundations of Chemistry*, 23(3):459–463, October 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09409-4>.

**Ramberg:2021:BRE**

- [560] Peter J. Ramberg. Book review: Eric Scerri and Elena Ghibaudi, eds: *What is an element? A collection of essays by chemists, philosophers, historians, and educators*. *Foundations of Chemistry*, 23(3):465–473, October 2021. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09406-7>.

**Scerri:2022:EPI**

- [561] Eric Scerri. Editorial 70 (the platinum issue). *Foundations of Chemistry*, 24(1):1–2, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09429-8>.

**Nelson:2022:UE**

- [562] Peter G. Nelson. Understanding entropy. *Foundations of Chemistry*, 24(1):3–13, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09412-9>.

**Hisamatsu:2022:ONR**

- [563] Yoji Hisamatsu, Kazuhiro Egashira, and Yoshiteru Maeno. Ogawa’s nipponium and its re-assignment to rhenium. *Foundations of Chemistry*, 24(1):15–57, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09410-x>.

**Pucci:2022:DFT**

- [564] R. Pucci and G. G. N. Angilella. Density functional theory, chemical reactivity, and the Fukui functions. *Foundations of Chemistry*, 24(1):59–71,

April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09416-z>.

**Viswanathan:2022:OPS**

- [565] Balakrishnan Viswanathan and Mohamed Shajahan Gulam Razul. Orthogonality properties of states, configurations, and orbitals. *Foundations of Chemistry*, 24(1):73–86, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09417-y>.

**Raos:2022:STR**

- [566] Nenad Raos. Special theory of relativity in chemistry. *Foundations of Chemistry*, 24(1):87–95, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09420-3>.

**Blackie:2022:KBC**

- [567] Margaret A. L. Blackie. Knowledge building in chemistry education. *Foundations of Chemistry*, 24(1):97–111, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09419-w>.

**daSilva:2022:HPL**

- [568] Sérgio Luís da Silva. The habit of the pipe: a layperson’s view of the periodic table. *Foundations of Chemistry*, 24(1):113–120, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09422-1>.

**Goodwin:2022:CPS**

- [569] Alan Goodwin. Chemistry: progress since 1860 — reflections on chemistry and chemistry education triggered by reading Muspratt’s *Chemistry*. *Foundations of Chemistry*, 24(1):121–142, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09424-z>.

**Talpsepp:2022:IES**

- [570] Edit Talpsepp. Interview with Eric Scerri. *Foundations of Chemistry*, 24(1):143–153, April 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09418-x>.

**Atkins:2022:BB**

- [571] Peter Atkins. Brick by brick. *Foundations of Chemistry*, 24(1):155–157, April 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-021-09415-6>.

**Scerri:2022:Ea**

- [572] Eric Scerri. Editorial 71. *Foundations of Chemistry*, 24(2):159–160, July 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09441-y>.

**Wray:2022:WHW**

- [573] K. Brad Wray. What happened when chemists came to classify elements by their atomic number? *Foundations of Chemistry*, 24(2):161–170, July 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09423-0>.

**Ferreira:2022:DCC**

- [574] Larissa Moreira Ferreira, Jean Pscheidt Weiss, and Marcelo Lambach. Disparities and conceptual connections regarding the concept of substance in general chemistry textbook glossaries. *Foundations of Chemistry*, 24(2):171–187, July 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09425-y>.

**Imyanitov:2022:PTC**

- [575] Naum S. Imyanitov. Periodic tables for cations + 1, + 2, + 3 and anions — 1. Quantitative characteristics for manifestations of internal periodicity and koinosymmetry. *Foundations of Chemistry*, 24(2):189–219, July 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09421-2>.

**Paparazzo:2022:PC**

- [576] Ernesto Paparazzo. Plato on chemistry. *Foundations of Chemistry*, 24(2):221–238, July 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09426-x>.

**Hartman:2022:ISS**

- [577] JudithAnn R. Hartman, Eric A. Nelson, and Paul A. Kirschner. Improving student success in chemistry through cognitive science. *Foundations of*



*Chemistry*, 24(2):239–261, July 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09427-w>.

**Sharma:2022:QAS**

- [578] Smriti Sharma. Quantum algorithms for simulation of quantum chemistry problems by quantum computers: an appraisal. *Foundations of Chemistry*, 24(2):263–276, July 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09428-9>.

**Anooshe:2022:CEZ**

- [579] Nazila Farmani Anooshe and Aliyar Mousavi. The case of Zinjafir in the medical and mineralogical texts of medieval Persia: a puzzle created in the absence of the concept of chemical elements. *Foundations of Chemistry*, 24(2):277–284, July 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09436-9>.

**Scerri:2022:PT**

- [580] Eric R. Scerri. In praise of triads. *Foundations of Chemistry*, 24(2):285–300, July 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09434-x>.

**Labinger:2022:BR**

- [581] Jay Labinger. Book review. *Foundations of Chemistry*, 24(2):301–310, July 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09438-7>.

**Scerri:2022:Eb**

- [582] Eric Scerri. Editorial 72. *Foundations of Chemistry*, 24(3):311–313, October 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09445-8>.

**Longo:2022:HFL**

- [583] Savino Longo. Hints for a formal language inspired by Lewis structures. *Foundations of Chemistry*, 24(3):315–330, October 2022. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09439-6>.

**Imyanitov:2022:NPT**

- [584] Naum S. Imyanitov. Non-periodic table of periodicities and periodic table with additional periodicities: tetrad periodicity. *Foundations of Chemistry*, 24(3):331–358, October 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09437-8>.

**Sharma:2022:PSA**

- [585] Praveen Kumar Sharma. Prospective sustainable agriculture principles inspired by green chemistry. *Foundations of Chemistry*, 24(3):359–362, October 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09442-x>.

**Seeman:2022:CEB**

- [586] Jeffrey I. Seeman. A case for the engagement between the sciences and the humanities. Jay A. Labinger's: *Connecting Literature and Science*. New York: Routledge, 2022. *Foundations of Chemistry*, 24(3):363–373, October 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09440-z>.

**Zambon:2022:CRC**

- [587] Alfio Zambon. Chemical reactivity: cause-effect or interaction? *Foundations of Chemistry*, 24(3):375–387, October 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09430-1>.

**Scerri:2022:HCN**

- [588] Eric R. Scerri. Hasok Chang on the nature of acids. *Foundations of Chemistry*, 24(3):389–404, October 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09432-z>.

**Alassia:2022:POA**

- [589] Fiorela Alassia. A process ontology approach in biochemistry: the case of GPCRs and biosignaling. *Foundations of Chemistry*, 24(3):405–422, October 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09443-w>. See correction [603].

**Banchetti-Robino:2022:RBR**

- [590] Marina Paola Banchetti-Robino. Robert Boyle and the relational and dispositional nature of chemical properties. *Foundations of Chemistry*, 24(3):423–431, October 2022. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09435-w>.

**Scerri:2023:Ea**

- [591] Eric Scerri. Editorial 73. *Foundations of Chemistry*, 25(1):1–4, April 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09472-z>.

**Viswanathan:2023:EPR**

- [592] Balakrishnan Viswanathan and M. Shajahan Gulam Razul. Electronegativity provides the relationship between formal charge, oxidation state, and actual charge. *Foundations of Chemistry*, 25(1):5–28, April 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09447-6>.

**Miskowiec:2023:NGNa**

- [593] Paweł Miśkowiec. Name game: the naming history of the chemical elements — part 1 — from antiquity till the end of 18th century. *Foundations of Chemistry*, 25(1):29–51, April 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09448-5>. See correction [594].

**Miskowiec:2023:CNG**

- [594] Paweł Miśkowiec. Correction to: Name game: the naming history of the chemical elements — part 1 — from antiquity till the end of 18th century. *Foundations of Chemistry*, 25(1):53–55, April 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09462-7>. See [593].

**Wray:2023:TRD**

- [595] K. Brad Wray. Theodore Richards and the discovery of isotopes. *Foundations of Chemistry*, 25(1):57–66, April 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09449-4>. See response [625].

**Cat:2023:ANI**

- [596] Jordi Cat and Nicholas W. Best. Atomic number and isotopy before nuclear structure: multiple standards and evolving collaboration of chemistry and physics. *Foundations of Chemistry*, 25(1):67–99, April 2023.

CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09450-x>.

**Scerri:2023:IOL**

- [597] Eric R. Scerri. Interview with Olimpia Lombardi. *Foundations of Chemistry*, 25(1):101–117, April 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09453-8>.

**Anderson:2023:ESC**

- [598] G. M. Anderson. Entropy and sign conventions. *Foundations of Chemistry*, 25(1):119–125, April 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09463-6>.

**JaimesArriaga:2023:NQC**

- [599] Jesus Alberto Jaimes Arriaga. On the nature of quantum-chemical entities: the case of electron density. *Foundations of Chemistry*, 25(1):127–139, April 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09431-0>.

**Ochiai:2023:PGD**

- [600] Hirofumi Ochiai. Philosophical grounds for designing invisible molecules. *Foundations of Chemistry*, 25(1):141–149, April 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09433-y>.

**Pergola:2023:MLR**

- [601] Martín Pégola and Lydia Galagovsky. Models, languages and representations: philosophical reflections driven from a research on teaching and learning about cellular respiration. *Foundations of Chemistry*, 25(1):151–166, April 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09444-9>.

**Headley:2023:NKC**

- [602] Clevis Headley. Natural kinds, chemical practice, and interpretive communities. *Foundations of Chemistry*, 25(1):167–187, April 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09459-2>.

**Alassia:2023:CPO**

- [603] Fiorela Alassia. Correction to: A process ontology approach in biochemistry: the case of GPCRs and biosignaling. *Foundations of Chemistry*, 25(1):189–206, April 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09461-8>. See [589].

**Mao:2023:PUB**

- [604] Guoyong Mao, Runzhan Liu, and Ning Zhang. Predicting unknown binary compounds from the view of complex network. *Foundations of Chemistry*, 25(2):207–214, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09457-4>.

**Miskowiec:2023:NGNb**

- [605] Paweł Miśkowiec. Name game: the naming history of the chemical elements: part 2 — turbulent nineteenth century. *Foundations of Chemistry*, 25(2):215–234, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09451-w>.

**Miskowiec:2023:NGNc**

- [606] Paweł Miśkowiec. Name game: the naming history of the chemical elements: part 3 — rivalry of scientists in the twentieth and twenty-first centuries. *Foundations of Chemistry*, 25(2):235–251, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09452-9>.

**Scerri:2023:CWC**

- [607] Eric R. Scerri. A commentary on Weisberg’s critique of the ‘structural conception’ of chemical bonding. *Foundations of Chemistry*, 25(2):253–264, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09454-7>.

**DiGiacomo:2023:HSF**

- [608] Francesco Di Giacomo. On how some fundamental chemical concepts are correlated by arithmetic, geometric and harmonic means. *Foundations of Chemistry*, 25(2):265–268, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09466-x>.

**Garditz:2023:PUP**

- [609] Klaus Ferdinand Gärditz. The poetry of the universe, the periodic table, and the scientific progress: a review of new studies on the periodic table of the elements. *Foundations of Chemistry*, 25(2):269–283, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09468-9>.

**Eaton:2023:IBB**

- [610] Gareth R. Eaton. Interpreting the bonding of  $B_2H_6$  and the nature of the 3-center-2-electron bond: decisive test of theory of valency. *Foundations of Chemistry*, 25(2):285–298, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09469-8>.

**Tantillo:2023:UTA**

- [611] Dean J. Tantillo and Jeffrey I. Seeman. On a unified theory of acids and bases: Hasok Chang, Eric R. Scerri, modern theoretical chemistry, and the philosophy of chemistry. *Foundations of Chemistry*, 25(2):299–320, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09456-5>.

**Seeman:2023:RSR**

- [612] Jeffrey I. Seeman. Revolutions in science, revolutions in chemistry. *Foundations of Chemistry*, 25(2):321–335, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09467-w>.

**Hanlon:2023:BRP**

- [613] Robert T. Hanlon. Book review of Paul Sen's, "*Einstein's Fridge. How the difference between hot and cold explains the universe*" ISBN: 978-1-5011-8130-6. *Foundations of Chemistry*, 25(2):337–338, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09446-7>. See correction [614].

**Hanlon:2023:CPS**

- [614] Robert T. Hanlon. Correction: Paul Sen's, "*Einstein's Fridge. How the difference between hot and cold explains the universe*" ISBN: 978-1-5011-8130-6. *Foundations of Chemistry*, 25(2):339, July 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09465-4>. See [613].

**Scerri:2023:Eb**

- [615] Eric R. Scerri. Editorial 75. *Foundations of Chemistry*, 25(3):341–342, October 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09489-4>.

**Friend:2023:ENM**

- [616] Michèle Indira Friend. Editor's note by Michele Friend. *Foundations of Chemistry*, 25(3):343–344, October 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09487-6>.

**Vancik:2023:CS**

- [617] Hrvoj Vancik. From complexity to systems. *Foundations of Chemistry*, 25(3):345–358, October 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-022-09455-6>.

**Ochiai:2023:WDE**

- [618] Hirofumi Ochiai. Why do *prima facie* intuitive theories work in organic chemistry? *Foundations of Chemistry*, 25(3):359–367, October 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09470-1>.

**Suarez:2023:RCP**

- [619] Mauricio Suárez and Pedro J. Sánchez Gómez. Reactivity in chemistry: the propensity view. *Foundations of Chemistry*, 25(3):369–380, October 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09477-8>.

**Gomez:2023:SRS**

- [620] Pedro J. Sánchez Gómez. Scientific representation and science identity: the case of chemistry. *Foundations of Chemistry*, 25(3):381–391, October 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09481-y>.

**Bano:2023:DPE**

- [621] Safia Bano. A defense of placeholder essentialism. *Foundations of Chemistry*, 25(3):393–404, October 2023. CODEN FOCHF. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09478-7>.

**Miller:2023:CRQ**

- [622] Ryan Miller. Chemical reduction and quantum interpretation: a case for Thomistic emergence. *Foundations of Chemistry*, 25(3):405–417, October 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09479-6>.

**Sari:2023:MCT**

- [623] Rr. Lis Permana Sari, Heru Pratomo, Isti Yunita, Sukisman Purtadi, Mahesh Narayan, and Kristian Handoyo Sugiyarto. Misconception in chemistry textbooks: a case study on the concept of quantum number, electronic configuration and review for teaching material. *Foundations of Chemistry*, 25(3):419–437, October 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09475-w>.

**Xu:2023:CEF**

- [624] Yachun Xu, Yichen Tong, and Jiangyang Yuan. Common empirical foundations, different theoretical choices: The Berthollet–Proust controversy and Dalton’s resolution. *Foundations of Chemistry*, 25(3):439–455, October 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09471-0>.

**Eaton:2023:RCD**

- [625] Gareth R. Eaton. Response to the critique by Dr. K. Brad Wray, published in *Foundations of Chemistry* October 6, 2022. *Foundations of Chemistry*, 25(3):457–461, October 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09473-y>. See [595].

**Krasnodebski:2023:UBH**

- [626] Marcin Krasnodebski. An unlikely bifurcation: history of sustainable (but not green) chemistry. *Foundations of Chemistry*, 25(3):463–484, October 2023. CODEN FOCHFL. ISSN 1386-4238 (print), 1572-8463 (electronic). URL <https://link.springer.com/article/10.1007/s10698-023-09474-x>.

**Shakhashiri:1983:CDH**

- [627] Bassam Z. Shakhashiri. *Chemical demonstrations: a handbook for teachers of chemistry*. University of Wisconsin Press, Madison, WI, USA, 1983–2011. ISBN 0-299-08890-1 (vol. 1), 0-299-10130-4 (vol. 2), 0-299-11950-5 (vol. 3), 0-299-12860-1 (vol. 4), 0-299-22650-6 (vol. 5).



5). xxiv + 343 (vol. 1: 1983), xxxvi + 311 (vol. 2: 1983), xx + 401 (vol. 3: 1989) xxvii + 290 (vol. 4: 1992), xxxiv + 323 (vol. 5: 2011) pp. LCCN QD43 .S5 1983. US\$25.00. URL <http://www.loc.gov/catdir/enhancements/fy0608/81070016-d.html>; <http://www.loc.gov/catdir/enhancements/fy0608/81070016-t.html>; <http://www.loc.gov/catdir/enhancements/fy0609/81070016-b.html>.

**Grosberg:1997:GMH**

- [628] A. Yu. Grosberg and A. R. Khokhlov. *Giant molecules: here, and there, and everywhere*. Academic Press, New York, USA, 1997. ISBN 0-12-304130-9. xv + 244 pp. LCCN QD381 .G755 1997. URL <http://www.loc.gov/catdir/description/els032/96027593.html>; <http://www.loc.gov/catdir/toc/els032/96027593.html>.

**Pullman:1998:AHH**

- [629] Bernard Pullman. *The atom in the history of human thought*. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 1998. ISBN 0-19-511447-7 (hardcover). x + 403 pp. LCCN QC171.2 .P8513 1998. URL <http://www.loc.gov/catdir/enhancements/fy0635/97036040-d.html>; <http://www.loc.gov/catdir/enhancements/fy0723/97036040-b.html>. Translation from French by Axel Reisinger.

**Albert:2000:GLN**

- [630] Mark Albert. *Galen's lectures: a novel about chemistry*. Xlibris, ????, 2000. ISBN 0-7388-4196-X. 493 pp. LCCN PS3551.L259 G35 2000.

**Djerassi:2000:IMS**

- [631] Carl Djerassi. *An immaculate misconception: sex in an age of mechanical reproduction*. Imperial College Press, London, UK, 2000. ISBN 1-86094-248-2 (paperback). 1-84816-010-0 (e-book). xviii + 134 pp. LCCN PS3554.J47 I46 2000.

**Laszlo:2000:MC**

- [632] Pierre Laszlo. *Miroir de la chimie*. Science ouverte. Seuil, Paris, France, 2000. ISBN 2-02-035273-7. 328 pp. LCCN QD39 .L37 2000.

**vanBrakel:2000:PCB**

- [633] J. (Jaap) van Brakel. *Philosophy of chemistry: between the manifest and the scientific image*, volume 15 of *Louvain philosophical studies*. Leuven University Press, Leuven, Belgium, 2000. ISBN 90-5867-063-5. xiv + 246 pp. LCCN QD6 .B75 2000.

**Christie:2001:OLP**

- [634] Maureen Christie. *The Ozone Layer: A Philosophy of Science Perspective*. Cambridge University Press, Cambridge, UK, 2001. ISBN 0-521-65072-0 (hardcover), 0-521-65908-6 (paperback). xii + 215 pp. LCCN QC881.2.O9 C48 2001. URL <http://www.loc.gov/catdir/description/cam021/00036295.html>; <http://www.loc.gov/catdir/samples/cam031/00036295.html>; <http://www.loc.gov/catdir/toc/cam021/00036295.html>.

**Gillespie:2001:CBM**

- [635] Ronald J. (Ronald James) Gillespie and Paul L. A. Popelier. *Chemical bonding and molecular geometry: from Lewis to electron densities*. Topics in inorganic chemistry. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 2001. ISBN 0-19-510495-1, 0-19-510496-X (paperback). xiii + 268 pp. LCCN QD461 .G537 2001. URL <http://www.loc.gov/catdir/enhancements/fy0610/00025404-d.html>; <http://www.loc.gov/catdir/enhancements/fy0610/00025404-t.html>.

**Basolo:2002:CIC**

- [636] Fred Basolo. *From Coello to inorganic chemistry: a lifetime of reactions*. Profiles in inorganic chemistry. Kluwer Academic/Plenum Publishers, New York, NY, USA, 2002. ISBN 0-306-46774-7. xxii + 245 pp. LCCN QD22.B258 A3 2002. URL <http://www.loc.gov/catdir/enhancements/fy0813/2002022220-t.html>; <http://www.loc.gov/catdir/enhancements/fy0820/2002022220-d.html>.

**Cobb:2002:MMM**

- [637] Cathy Cobb. *Magick, mayhem, and mavericks: the spirited history of physical chemistry*. Prometheus Books, Amherst, NY, USA, 2002. ISBN 1-57392-976-X. 420 pp. LCCN QD452 .C63 2002.

**Habashi:2002:AAB**

- [638] Fathi Habashi. *From alchemy to atomic bombs: history of chemistry, metallurgy, and civilization*. Métallurgie Extractive Québec, Sainte Foy, QC, Canada, 2002. ISBN 2-922686-00-0. x + 357 pp. LCCN QD11 .H23 2002.

**Hentschel:2002:MST**

- [639] Klaus Hentschel. *Mapping the spectrum: techniques of visual representation in research and teaching*. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 2002. ISBN 0-19-850953-7 (hardcover). xii + 362 pp. LCCN QD95 .H47 2002. URL [http://www.e-streams.com/es0511/es0511\\\_2165.html](http://www.e-streams.com/es0511/es0511\_2165.html); <http://www.loc.gov/catdir/enhancements/>

fy0613/2002072578-d.html; <http://www.loc.gov/catdir/toc/fy032/2002072578.html>.

**Seligardi:2002:LIC**

- [640] Raffaella Seligardi. *Lavoisier in Italia: la comunità scientifica italiana e la rivoluzione chimica*, volume 46 of *Biblioteca di storia della scienza*. L. S. Olschki, Firenze, Italia, 2002. ISBN 88-222-5150-4. ISSN 0394-5065. 410 pp. LCCN QD18.I8 S45 2002.

**Pohanish:2003:WGC**

- [641] Richard P. Pohanish and Stanley A. Greene. *Wiley guide to chemical incompatibilities*. John Wiley, New York, NY, USA, second edition, 2003. ISBN 0-471-23859-7. xvi + 1278 pp. LCCN T55.3.H3 P647 2003. URL <http://www.loc.gov/catdir/bios/wiley044/2002032959.html>; <http://www.loc.gov/catdir/description/wiley037/2002032959.html>; <http://www.loc.gov/catdir/toc/wiley031/2002032959.html>.

**Gordin:2004:WOT**

- [642] Michael D. Gordin. *A well-ordered thing: Dmitrii Mendeleev and the shadow of the periodic table*. Basic Books, New York, NY, USA, 2004. ISBN 0-465-02775-X. xx + 364 pp. LCCN QD22.M43 G67 2004. URL <http://www.loc.gov/catdir/enhancements/fy0832/2003025533-b.html>; <http://www.loc.gov/catdir/enhancements/fy0832/2003025533-d.html>; <http://www.loc.gov/catdir/toc/ecip0411/2003025533.html>.

**Scerri:2007:PTS**

- [643] Eric R. Scerri. *The Periodic Table: Its Story and Its Significance*. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 2007. ISBN 0-19-530573-6. xxii + 346 pp. LCCN QD467 .S345 2007. URL <http://www.loc.gov/catdir/enhancements/fy0635/2005037784-d.html>; <http://www.loc.gov/catdir/enhancements/fy0722/2005037784-b.html>; <http://www.loc.gov/catdir/toc/ecip065/2005037784.html>.

**Bensaude-Vincent:2008:CIS**

- [644] Bernadette Bensaude-Vincent and Jonathan Simon. *Chemistry: the impure science*. Imperial College Press, London, UK, 2008. ISBN 1-84816-225-1 (hardcover). xii + 268 pp. LCCN QD31.3 .B455 2008.

**Brock:2008:WCC**

- [645] W. H. (William Hodson) Brock. *William Crookes (1832–1919) and the commercialization of science*. Science, technology, and culture. Ashgate,

Aldershot, England, 2008. ISBN 0-7546-6322-1. ISSN 1700-1945. xxvii + 556 pp. LCCN Q143.C7 B76 2008.

**Chalmers:2009:SAP**

- [646] A. F. (Alan Francis) Chalmers. *The Scientist's Atom and the Philosopher's Stone: How Science Succeeded and Philosophy Failed to Gain Knowledge of Atoms*, volume 279 of *Boston Studies in the Philosophy of Science*. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2009. ISBN 90-481-2361-5, 90-481-2362-3. ISSN 0068-0346. xii + 287 pp. LCCN QD461 .C375 2009. URL <https://link.springer.com/book/10.1007/978-90-481-2362-9>.

**He:2009:TDX**

- [647] Bob B. He. *Two-dimensional X-ray diffraction*. John Wiley, New York, NY, USA, 2009. ISBN 0-470-22722-2. xiv + 426 pp. LCCN QC482.D5 H4 2009. URL <http://www.loc.gov/catdir/enhancements/fy1012/2009005619-b.html>; <http://www.loc.gov/catdir/enhancements/fy1012/2009005619-d.html>; <http://www.loc.gov/catdir/enhancements/fy1012/2009005619-t.html>.

**Klabunde:2009:NMC**

- [648] Kenneth J. Klabunde and Ryan Richards. *Nanoscale materials in chemistry*. John Wiley, New York, NY, USA, second edition, 2009. ISBN 0-470-22270-0 (hardcover). xiii + 777 + 12 pp. LCCN TA418.9.N35 N345 2009.

**Olah:2009:BOG**

- [649] George A. (George Andrew) Olah, Alain Goeppert, and G. K. Surya Prakash. *Beyond oil and gas: the methanol economy*. Wiley-VCH, Weinheim, German, second updated and enlarged edition, 2009. ISBN 3-527-32422-4. xvi + 334 pp. LCCN HD9502.5.M472 O43 2009. URL <http://www.loc.gov/catdir/enhancements/fy1106/2010485132-b.html>; <http://www.loc.gov/catdir/enhancements/fy1106/2010485132-d.html>; <http://www.loc.gov/catdir/enhancements/fy1106/2010485132-t.html>.

**Pohanish:2009:WGC**

- [650] Richard P. Pohanish and Stanley A. Greene. *Wiley guide to chemical incompatibilities*. John Wiley, New York, NY, USA, third edition, 2009. ISBN 0-470-38763-7. xviii + 1110 pp. LCCN T55.3.H3 P647 2009. URL <http://www.loc.gov/catdir/enhancements/fy1011/2009009766-b.html>; <http://www.loc.gov/catdir/enhancements/fy1011/2009009766-d.html>; <http://www.loc.gov/catdir/enhancements/fy1011/2009009766-t.html>.

**Roesky:2009:EGS**

- [651] Herbert W. Roesky, Dietmar K. Kennepohl, and Jean-Marie Lehn, editors. *Experiments in green and sustainable chemistry*. Wiley-VCH, Weinheim, Germany, 2009. ISBN 3-527-32546-8 (hardcover). xxiv + 283 pp. LCCN TP155.2.E58 E96 2009.

**Fisher:2010:MAA**

- [652] David E. Fisher. *Much ado about (practically) nothing: a history of the noble gases*. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 2010. ISBN 0-19-539396-1 (hardcover). x + 264 pp. LCCN QD162 .F57 2010.

**Kean:2010:DSO**

- [653] Sam Kean. *The disappearing spoon: and other true tales of madness, love, and the history of the world from the periodic table of the elements*. Little, Brown and Company, Boston, Toronto, London, 2010. ISBN 0-316-05164-0. vi + 391 pp. LCCN QD466 .K37 2010.

**Grosberg:2011:GMH**

- [654] A. Yu. Grosberg and A. R. Khokhlov. *Giant molecules: here, there, and everywhere*. World Scientific Publishing Co., Singapore; Philadelphia, PA, USA; River Edge, NJ, USA, second edition, 2011. ISBN 981-283-922-4 (hardcover). xxiv + 322 pp. LCCN QD381 .G755 2011. Foreword by Pierre-Gilles de Gennes.

**WeidlerKubanek:2011:NLT**

- [655] Anne-Marie Weidler Kubanek. *Nothing less than an adventure: Ellen Gleditsch and her life in science*. Createspace Online, ????, 2011. ISBN 1-4528-4213-2. 185 pp. LCCN ????

**Llored:2013:PCP**

- [656] Jean-Pierre Llored, editor. *The philosophy of chemistry: practices, methodologies, and concepts*. Cambridge Scholars Publishing, Newcastle upon Tyne, UK, 2013. ISBN 1-4438-4605-8 (hardcover). xix + 764 pp. LCCN QD6 .P49 2013.

**Scerri:2013:SEMa**

- [657] Eric R. Scerri. *30-second elements: the 50 most significant elements, each explained in half a minute*. Metro Books, New York, NY, USA, 2013. ISBN 1-4351-4521-6. 160 pp. LCCN QD466 .S34 2013.

**Scerri:2013:SEMb**

- [658] Eric R. Scerri. *30-second elements: the 50 most significant elements, each explained in half a minute*. Icon, London, UK, 2013. ISBN 1-84831-594-5. 160 pp. LCCN ????. With Hugh Aldersey-Williams.

**Scerri:2013:SEMc**

- [659] Eric R. Scerri and Danian (Ying Yu) Li. *30-second elements. Miao gao dong hua xue yuan su: zhou qi biao mei ni xiang de na me nan*, volume 1. Qi lin wen hua chu ban, Tai bei shi, Taiwan, 2013. ISBN 986-5893-54-1. ????. pp. LCCN QD466.

**Scerri:2013:TE**

- [660] Eric R. Scerri. *A tale of 7 elements*. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 2013. ISBN 0-19-539131-4 (hardcover), 0-19-987503-0 (e-book). xxxiii + 270 pp. LCCN QD467 .S3475 2013. URL <http://catalogue.bnf.fr/ark:/12148/cb436625450>.

**Barton:1982:RBW**

- [661] Sir Derek Barton, FRS, editor. *R. B. Woodward remembered: a collection of papers in honour of Robert Burns Woodward, 1917–1979*. Pergamon Press, Oxford, UK, 1982. ISBN 0-08-029238-0. xx + 522 pp. LCCN QD255 .R23 1982.

**Cornish-Bowden:1997:NBO**

- [662] Athel Cornish-Bowden, editor. *New beer in an old bottle: Eduard Buchner and the growth of biochemical knowledge*. Col·lecció oberta. Universitat de València, València, Spain, 1997. ISBN 84-370-3328-4. 252 pp. LCCN ????. URL <http://www.gbv.de/dms/bs/toc/318369354.pdf>.

**Knight:1998:MCS**

- [663] David M. Knight and Helge Kragh, editors. *The making of the chemist: the social history of chemistry in Europe, 1789–1914*. Cambridge University Press, Cambridge, UK, 1998. ISBN 0-521-58351-9 (hardcover). xxi + 353 pp. LCCN QD39.7 .M34 1998. URL <http://www.loc.gov/catdir/description/cam028/97043009.html>; <http://www.loc.gov/catdir/toc/cam021/97043009.html>.

**Bhushan:2000:MMN**

- [664] Nalini Bhushan and Stuart M. Rosenfeld, editors. *Of minds and molecules: new philosophical perspectives on chemistry*. Oxford University Press, Walton Street, Oxford OX2 6DP, UK, 2000. ISBN 0-19-512834-6. xvi

+ 299 pp. LCCN QD6 .O34 2000. URL <http://www.loc.gov/catdir/enhancements/fy0604/99040329-d.html>.

**Lundgren:2000:CCT**

- [665] Anders Lundgren and Bernadette Bensaude-Vincent, editors. *Communicating chemistry: textbooks and their audiences, 1789–1939*, volume 3 of *European studies in science history and the arts*. Science History Publications/USA, Canton, MA, 2000. ISBN 0-88135-274-8. vii + 465 pp. LCCN QD8.5 .C66 2000. URL <http://www.loc.gov/catdir/toc/fy032/99052211.html>.

**Benfey:2001:RBW**

- [666] O. Theodor (Otto Theodor) Benfey and Peter John Turnbull Morris, editors. *Robert Burns Woodward: architect and artist in the world of molecules*. History of modern chemical sciences. Chemical Heritage Foundation, Philadelphia, PA, USA, 2001. ISBN 0-941901-25-4. ISSN 1069-2452. xxvii + 470 pp. LCCN QD22.W67 R63 2001. URL <http://www.loc.gov/catdir/enhancements/fy0630/00050876-d.html>.

**Klabunde:2001:NMC**

- [667] Kenneth J. Klabunde, editor. *Nanoscale materials in chemistry*. Wiley-Interscience, New York, NY, USA, 2001. ISBN 0-471-38395-3. xi + 292 pp. LCCN TA418.9.N35 N345 2001. URL <http://www.loc.gov/catdir/bios/wiley043/2001022371.html>; <http://www.loc.gov/catdir/description/wiley036/2001022371.html>; <http://www.loc.gov/catdir/toc/onix07/2001022371.html>.

**Ruthenberg:2008:SNC**

- [668] Klaus Ruthenberg and J. van (Jaap) Brakel, editors. *Stuff: the nature of chemical substances*. Königshausen and Neumann, Würzburg, Germany, 2008. ISBN 3-8260-3704-9 (paperback). LCCN QD39 .S78 2008.

**Scerri:2008:CPP**

- [669] Eric R. Scerri, editor. *Collected papers on philosophy of chemistry*. Imperial College Press, London, UK, 2008. ISBN 1-84816-137-9. x + 235 pp. LCCN QD6 .S34 2008. URL <http://www.loc.gov/catdir/toc/fy0903/2008278137.html>.

**Scerri:2009:SPP**

- [670] Eric R. Scerri, editor. *Selected papers on the periodic table*. Imperial College Press, London, UK, 2009. ISBN 1-84816-425-4. ix + 143 pp. LCCN QD467 .S347 2009.

**Gavroglou:2012:NPN**

- [671] Kostas Gavroglou and Ana Simões. *Neither physics nor chemistry: a history of quantum chemistry*. Transformations: studies in the history of science and technology. MIT Press, Cambridge, MA, USA, 2012. ISBN 0-262-01618-4 (hardcover). xiv + 351 pp. LCCN QD462 .G38 2012.

**Lagerkvist:2012:PTM**

- [672] Ulf Lagerkvist, editor. *The periodic table and a missed Nobel Prize*. World Scientific Publishing Co., Singapore; Philadelphia, PA, USA; River Edge, NJ, USA, 2012. ISBN 981-4295-95-7 (paperback), 981-4295-96-5 (e-book). xii + 122 pp. LCCN AS911.N9 .L34 2012; QD11 .L34 2012; QD467 .L34 2012. URL <http://www.worldscientific.com/worldscibooks/10.1142/7658>. Edited by Erling Norrby.

**Scerri:2014:SEM**

- [673] Eric R. Scerri, editor. *30-second elements: the 50 most significant elements, each explained in half a minute*. Pier 9, Crows Nest, NSW, Australia, 2014. ISBN 1-74336-084-3. 160 pp. LCCN ????