

João Paulo André

IRMÃS DE PROMETEU

A Química no Feminino

Revisão científica

CARLOS FIOHAIS

gradiva



Notas e referências

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uma das primeiras comunidades monásticas da cristandade, mas foi Escolástica, irmã de Bento de Núrsia, quem fundou em Piumarola, Itália, o primeiro mosteiro beneditino para mulheres, cujo exemplo seria seguido por toda a Europa. Vide P. A. Tamanini, «The Ancient History and the Female Christian Monasticism: Fundamentals and Perspectives», *Athens Journal of History*, 3 (2017) 235-250.

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54. Hoje sabe-se que o cloreto de cobalto(II) sólido, à temperatura ambiente, existe na forma hexa-hidratada ($\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$), a qual é cor de rosa. Por aquecimento, as moléculas de água libertam-se para a atmosfera, obtendo-se a forma anidra do composto, CoCl_2 , que é azul. Em solução aquosa, o termocromatismo é diferente (ainda que a mudança de cor seja semelhante), uma vez que as formas rosa e azul se devem, respectivamente, aos iões complexos $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$ e $[\text{CoCl}_4]^{2-}$, os quais existem em equilíbrio em solução, sendo esse equilíbrio dependente da temperatura (o aumento da temperatura favorece a formação do complexo azul; a sua diminuição favorece a do complexo rosa). As cores intermédias obtidas por Wallich dever-se-iam à presença de vestígios de níquel e ferro nas amostras usadas.

55. Originalmente, o processo de obtenção da Pedra Filosofal incluía quatro etapas: negra, branca, amarela e vermelha, as quais remontam aos primeiros séculos da era cristã (v. capítulo 1). Posteriormente viriam a ser referidas outras etapas, nomeadamente a *cauda pavonis*, com uma diversidade de cores.

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Capítulo III

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46. O subtítulo é *Ne' quali si contengono cose minerali, medicinali, arteficiose e alchimiche, e molte de l'arte profumatoria, appartenenti a ogni gran Signora* [Os quais incluem coisas minerais, medicinais, artificiosas e alquímicas, e muito da arte da perfumaria, pertencentes a qualquer grande Senhora].

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58. *Ibid.*, p. 42.

59. *Ibid.*, p. 67.

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Capítulo IV

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Is crumbled out again to his atoms. / 'Tis all in pieces, all coherence gone. / ... crumbled out again to his atoms.

'Tis all in pieces, all coherence gone; / All just supply, and all relation: / Prince, subject, father, son, are things forgot. (versos 205-15).

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Os dardos de Cupido não sentem
Quão diferentes de nós são
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Atrás da porta do laboratório estavam cinco meninas
matriculadas,

Uma cheirou o frasco de bromo, ficaram quatro

Sete pequenas cientistas
Misturaram produtos químicos
Uma ficou *gasfixiada*
Restaram então seis

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42. Prémio Nobel da Química em 1951 pelas suas descobertas na química dos elementos transurânicos.

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26. Alfred Kastler (1902-1984) — Físico francês laureado com o Nobel «pela descoberta e desenvolvimento de métodos ópticos para o estudo das ressonâncias hertziana nos átomos».

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34. D. C. Hoffman, M. M. Hoffman, «Post-fission phenomena» *Annual Review of Nuclear Science*, 24 (1974) 151-208.

35. D. C. Hoffman, «Chemistry of the Heaviest Elements», *Radiochimica Acta*, 72 (1996) 1-6.

36. *Seaborgium*; <https://www.rsc.org/periodic-table/element/106/seaborgium>.

37. Darleane C. Hoffman, interview by Hilary L. Domush, in Hoffman's home, Oakland, California, 28-29 February 2012 (Philadelphia: Chemical Heritage Foundation, Oral History Transcript # 0698).

38. *Los Alamos Medal*; <https://www.lanl.gov/about/awards-achievements/la-medal.php>.

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41. *Le Maitron — Dictionnaire biographique du mouvement ouvrier français*; <https://maitron.fr/spip.php?article159410>.

42. Prémio Nobel da Fisiologia ou Medicina em 1908, pelas suas contribuições para a imunologia, ficou sobretudo conhecido pelo desenvolvimento do conceito de «bala mágica» e do *Salvarsan* (1909), um composto de arsénio eficaz contra a sífilis.

43. Aaron J. Ihde, *The Development of Modern Chemistry*, Harper & Row, New York, 1964, pp. 695-699.

44. E. Fourneau, J. Tréfouël, Th. Tréfouël, G. Benoit, «Sur les isomères de l'acide para-oxy-3 aminophénylarsinique et son dérivé acétylé (Stovarsol)», *Bull. Soc. chim. Fr.*, 4^e série, 41 (1927) 499-541.

45. Ihde, *Op. cit.* (43), pp. 700-701.

46. A. Oliverio, «Daniel Bovet. 23 March 1907-8 April 1992», *Biographical Memoirs of Fellows of the Royal Society*, 39 (1994) 60-70.

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Foi uma impulsionadora da participação feminina na ciência. Embora tenha adquirido a cidadania norte-americana em 1956, as suas inclinações políticas de esquerda dificultaram-lhe inicialmente a obtenção do visto para os Estados Unidos. Já no tempo de Assistente de investigação em Oxford as suas simpatias políticas colocavam-na em confronto permanente

com Margaret Hilda Roberts (1925-2013), uma estudante de B.A. em Química que viria mais tarde a ser conhecida como Margareth Thatcher, a primeira mulher a desempenhar o cargo de Primeiro Ministro do Reino Unido. (Vide M. Sutton, «Barbara Low, penicillin and the protein pi hélix», *Chemistry World*, 15 June 2020; <https://www.chemistryworld.com/culture/barbara-low-penicillin-and-the-protein-pi-helix/4011736.article> e «Barbara Low: Pioneer in X-Ray Crystallography», Columbia University Irving Medical Center, *News*, March 14, 2019; <https://www.cuimc.columbia.edu/news/barbara-low-pioneer-x-ray-crystallography>).

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*P'ra trás olhando viram o levante
Do Paraíso, lar feliz de há pouco,
Varrendo-o o gládio ígneo, e apinhada
A porta com terríveis faces e armas.
Verteram naturais algumas lágrimas
Logo enxugadas. Era à frente o mundo,
Onde escolher seu lar, e a providência:
Mão na mão com pés tímidos e errantes
P'lo Éden solitário curso ousaram.*