Dalton Transactions



CORRECTION

View Article Online
View Journal | View Issue



Cite this: *Dalton Trans.*, 2022, **51**, 6976

Correction: Formation of plutonium(IV) silicate species in very alkaline reactive media

Paul Estevenon,^{a,b,c,d} Thomas Dumas,*^a Pier Lorenzo Solari,^e Eleonore Welcomme,^a Stephanie Szenknect,^b Adel Mesbah,^b Kristina O. Kvashnina,^{c,d} Philippe Moisy,^a Christophe Poinssot^a and Nicolas Dacheux*^b

DOI: 10.1039/d2dt90053j

rsc.li/dalton

Correction for 'Formation of plutonium(IV) silicate species in very alkaline reactive media' by Paul Estevenon *et al.*, *Dalton Trans.*, 2021, **50**, 12528–12536, DOI: **10.1039/D1DT02248B**.

The authors regret an error in the data processing leading to a swap of information in Table 1 (on page 12529) between the above MWSA values and the below MWSA values. The corrected Table 1 is shown below.

Table 1 Conditions reported for the formation of actinide(IV) silicate colloids in carbonate ion rich reactive media and in carbonate ion free reactive media, where their formation was suspected (after ultrafiltration of the corresponding solutions)

Ref.	Actinide-silicate system	Conditions	рН	Colloid size	
				Below MWSA	Above MWSA
Observation in	carbonate ion rich reactive media	a			
2	Th-Silicate	$[NaHCO_3] = 0.05 \text{ mol L}^{-1}$ $[Th] = 10^{-3} \text{ mol L}^{-1}$ Si/Th = 0.3-8	≥7	7–20 nm	
3 and 23	U-Silicate	$[NaHCO_3] = 0.05 \text{ mol L}^{-1}$ $[U] = 10^{-3} \text{ mol L}^{-1}$ Si/U = 0.25-3	7-9.5	≤20 nm	
24	U-Silicate	[NaHCO ₃] = 0.05 mol L ⁻¹ [U] = 10^{-3} mol L ⁻¹ Si/U = 2-4	9–10.5	≤220 nm	1–10 nm
4 and 25	Np-Silicate	[NaHCO ₃] = 0.1 mol L ⁻¹ [Np] = 10^{-3} mol L ⁻¹ Si/Np = 0.7-8.6	7–9	≤250 nm	5 nm
Observation in	carbonate ion free reactive media				
20	Th-Silicate	$ThO_2 \cdot xH_2O$ [Si] = 10^{-3} -0.15 mol L ⁻¹	6–12	Th solubility increase	
18	Th-Silicate	ThO ₂ · x H ₂ O [Si] = 1.8 × 10 ⁻² mol L ⁻¹	10-13.3	Th solubility increase	
15	Pu-Silicate	$PuO_2 \cdot xH_2O$ [Si] = $10^{-3} - 10^{-2} \text{ mol L}^{-1}$	11-13.8	Pu solubility increase	
MWSA: monon	uclear wall of silicic acid.				

^aCEA, DES, ISEC, DMRC, Univ Montpellier, Marcoule, France. E-mail: thomas.dumas@cea.fr; Tel: +33 4 66 33 92 05

^bICSM, Univ Montpellier, CNRS, CEA, ENSCM, Bagnols-sur-Cèze, France. E-mail: nicolas.dacheux@umontpellier.fr

^cThe Rossendorf Beamline at the ESRF, CS40220, 38043 Grenoble Cedex 9, France

^dHelmholtz Zentrum Dresden-Rossendorf (HZDR), Institute of Resource Ecology, P.O. Box 510119, 01314 Dresden, Germany

^eSynchrotron Soleil, L'Orme des Merisiers, Saint-Aubin, BP 48, F-91192 Gif-sur-Yvette Cedex, France

Dalton Transactions Correction

This mistake also led to a misinterpretation of the literature data reported in this table in the discussion. Indeed, the sentence beginning on line 25 of page 12529 (at the start of the penultimate paragraph of the Introduction section) is incorrect; the corrected text is:

"These colloids correspond to 1-20 nm particles at high silicate ion concentrations (above silicic acid mononuclear wall; $[Si] = 2 \times 10^{-3} \text{ mol L}^{-1} \text{ (ref. 26))}$ and $\leq 200 \text{ nm}$ agglomerates at lower concentrations".

The sentence beginning on line 54 of page 12531 (in the third paragraph of the Results and discussion section) is also incorrect; the corrected text is:

"It is worth noting that no evidence of particle agglomeration was observed; that result is consistent with the results obtained for the other actinide silicate colloids above the silicic acid mononuclear wall. 4,24,25,

These errors do not affect the overall conclusions of the paper.

The authors would like to apologize for these errors and any consequent inconvenience caused.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.