Tin(IV)

Equilibrium reactions	lg*K* at infinite dilution and *T* = 298 K		
	Hummel et al., 2002	Gamsjäger et al, 2012	Brown and Ekberg, 2016
$Sn^{4+} + 4\ H_2O \rightleftharpoons Sn(OH)_4 + 4\ H^+$			7.53 ± 0.12
$Sn^{4+} + 5\ H_2O \rightleftharpoons Sn(OH)_5^- + 5\ H^+$			–1.07 ± 0.42
$Sn^{4+} + 6\ H_2O \rightleftharpoons Sn(OH)_6^{2-} + 6\ H^+$			–11.14 ± 0.32
$Sn(OH)_4 + H_2O \rightleftharpoons Sn(OH)_5^- + H^+$	–8.0 ± 0.3	–8.60 ± 0.40	
$Sn(OH)_4 + 2\ H_2O \rightleftharpoons Sn(OH)_6^{2-} + 2\ H^+$	–18.4 ± 0.3	–18.67 ± 0.30	
$SnO_2(cr) + 2\ H_2O \rightleftharpoons Sn(OH)_4$	–8.0 ± 0.2	–8.06 ± 0.11	
$SnO_2(am) + 2\ H_2O \rightleftharpoons Sn(OH)_4$	–7.3 ± 0.3	–7.22 ± 0.08	
$SnO_2(s) + 4\ H^+ \rightleftharpoons Sn^{4+} + 2\ H_2O$			–15.59 ± 0.04

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 836–842.

W. Hummel, U. Berner, E. Curti, F.J. Pearson and T. Thoenen. Nagra / PSI Chemical Thermodynamic Data Base 01/01, July 2002.

H. Gamsjäger, T. Gajda, J. Sangster, S. K. Saxena and W. Voigt. Chemical Thermodynamics of Tin. Chemical Thermodynamics Volume 12. OECD, Paris, 2012.

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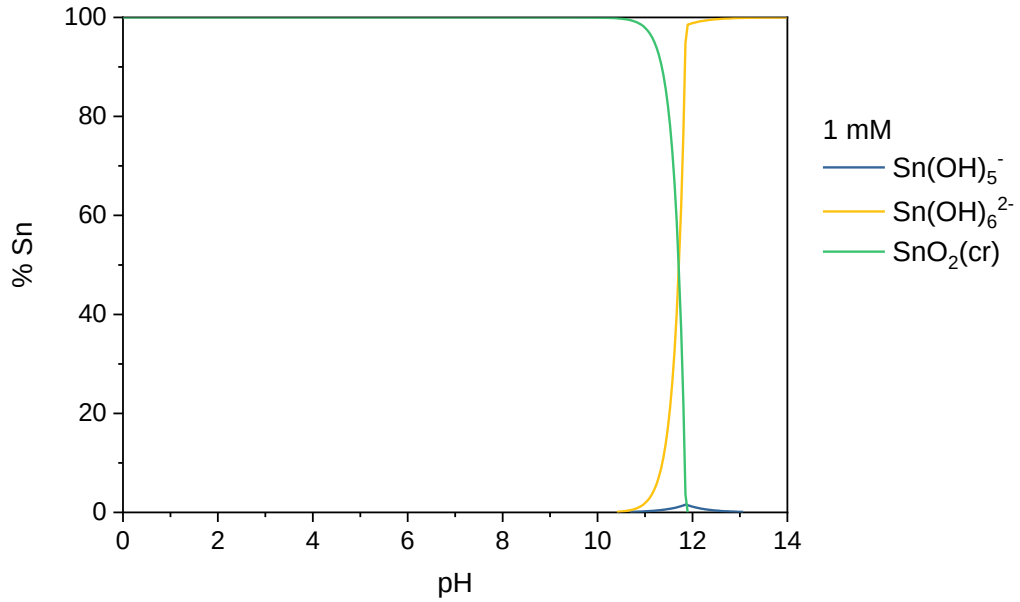
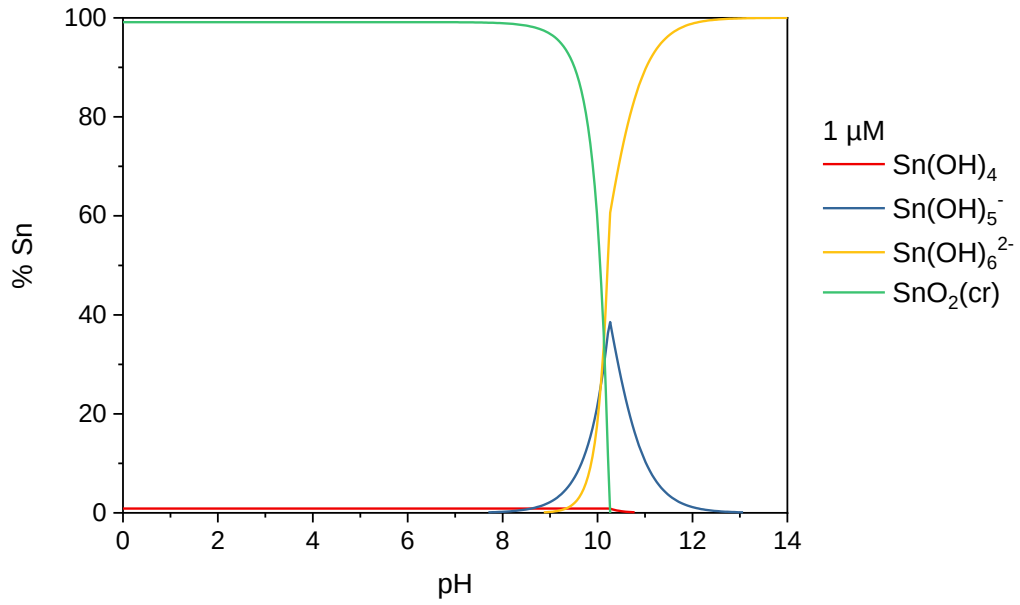
Distribution diagrams

These diagrams have been computed at two Sn(IV) concentrations (1 mM = 1x10^{-3} mol L^{-1} and 1 μM = 1x10^{-6} mol L^{-1}) with the 'best' equilibrium constants above (in green). Calculations assume T = 298 K for the limiting case of zero ionic strength (*i.e.*, even neglecting plotted ions).





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