Mercury(I)

Equilibrium reaction	lg*K* at infinite dilution and *T* = 298 K	
	Baes and Mesmer, 1976	Brown and Ekberg, 2016
$Hg_2^{2+} + H_2O \rightleftharpoons Hg_2OH^+ + H^+$	−5.0[a]	−4.45 ± 0.10

[a]0.5 M $HClO_4$

C C.F. Baes and R.E. Mesmer, The Hydrolysis of Cations. Wiley, New York, 1976, p. 302.

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 741-755.

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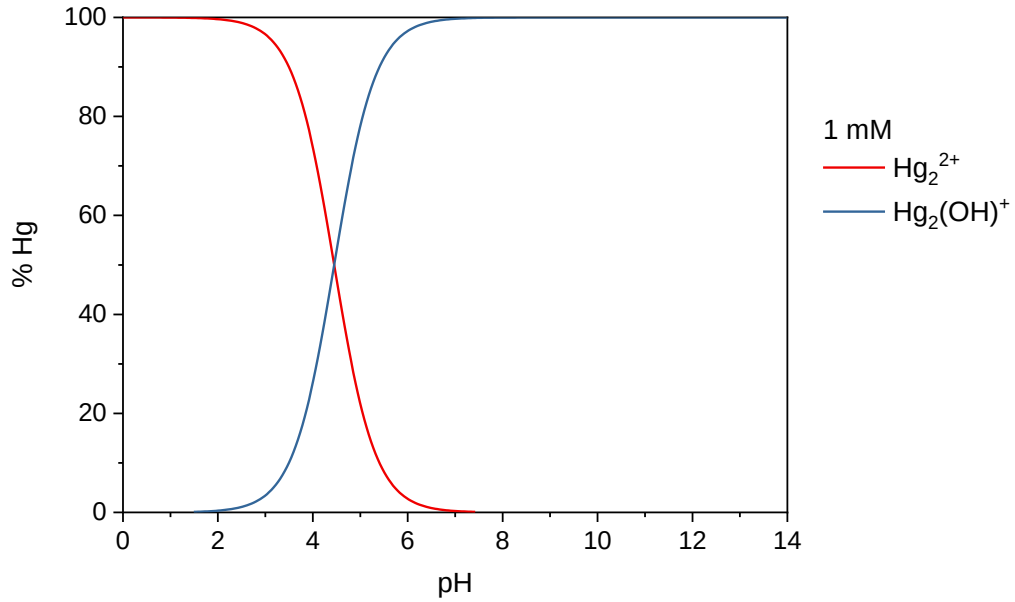
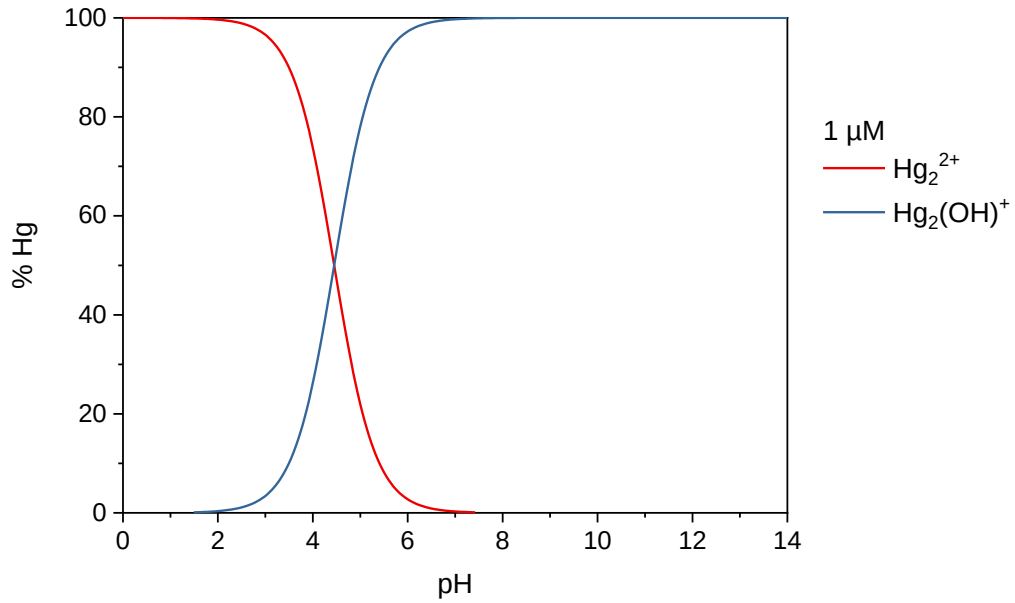
Distribution diagrams

These diagrams have been computed at two Hg(I) concentrations (1 mM = 1x10^{-3} mol L^{-1} and 1 μM = 1x10^{-6} mol L^{-1}) with the 'best' equilibrium constant 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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Mercury(II)

Equilibrium reactions	lg*K* at infinite dilution and *T* = 298 K		
	Baes and Mesmer, 1976	Powell et al., 2005	Brown and Ekberg, 2016
$Hg^{2+} + H_2O \rightleftharpoons HgOH^+ + H^+$	−3.40	–3.40 ± 0.08	−3.40 ± 0.08
$Hg^{2+} + 2\ H_2O \rightleftharpoons Hg(OH)_2 + 2\ H^+$	-6.17	–5.98 ± 0.06	−5.96 ± 0.07
$Hg^{2+} + 3\ H_2O \rightleftharpoons Hg(OH)_3^- + 3\ H^+$	–21.1	–21.1 ± 0.3	
$HgO(s) + 2\ H^+ \rightleftharpoons Hg^{2+} + H_2O$	2.56	2.37 ± 0.08	2.37 ± 0.08

C.F. Baes and R.E. Mesmer, The Hydrolysis of Cations. Wiley, New York, 1976, p. 312.

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 741-755.

K.J. Powell, P.L. Brown, R.H. Byrne, T. Gajda, G. Hefter, S. Sjöberg, H. Wanner, Chemical speciation of environmentally significant heavy metals with inorganic ligands. Part 1: the Hg^{2+}– Cl^-, OH^-, CO_3^{2-}, SO_4^{2-}, and PO_4^{3-} aqueous systems (IUPAC technical report). Pure Appl. Chem. 77, 739–800 (2005).

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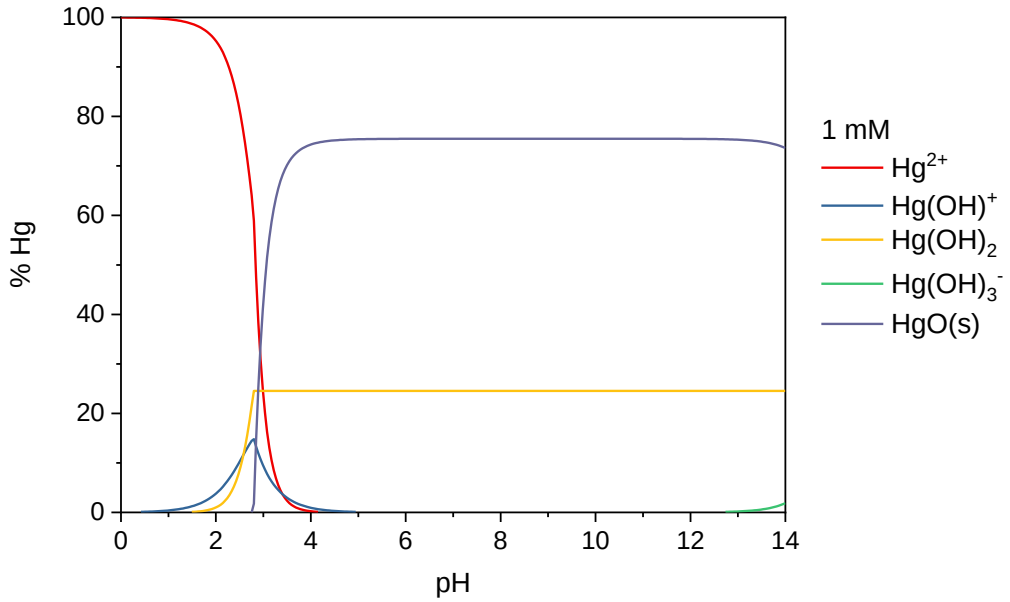
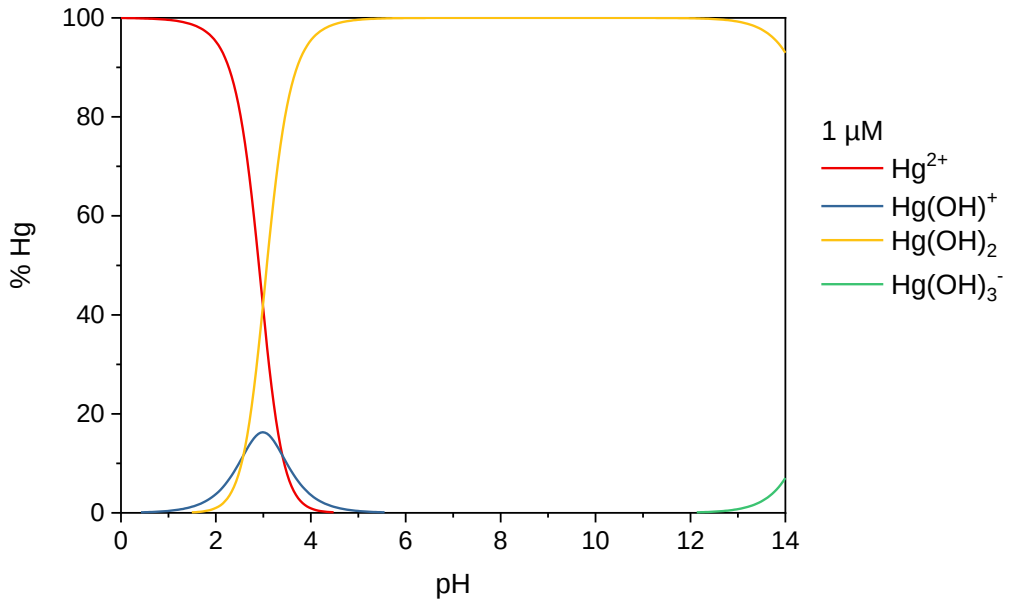
Distribution diagrams

These diagrams have been computed at two Hg(II) 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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