Author: montserrat.filella@unige.ch
Last update: 03/12/2024
Source: modified from compilation COST Action 1802

Equilibrium constants for hydrolysis and associated equilibria in critical compilations

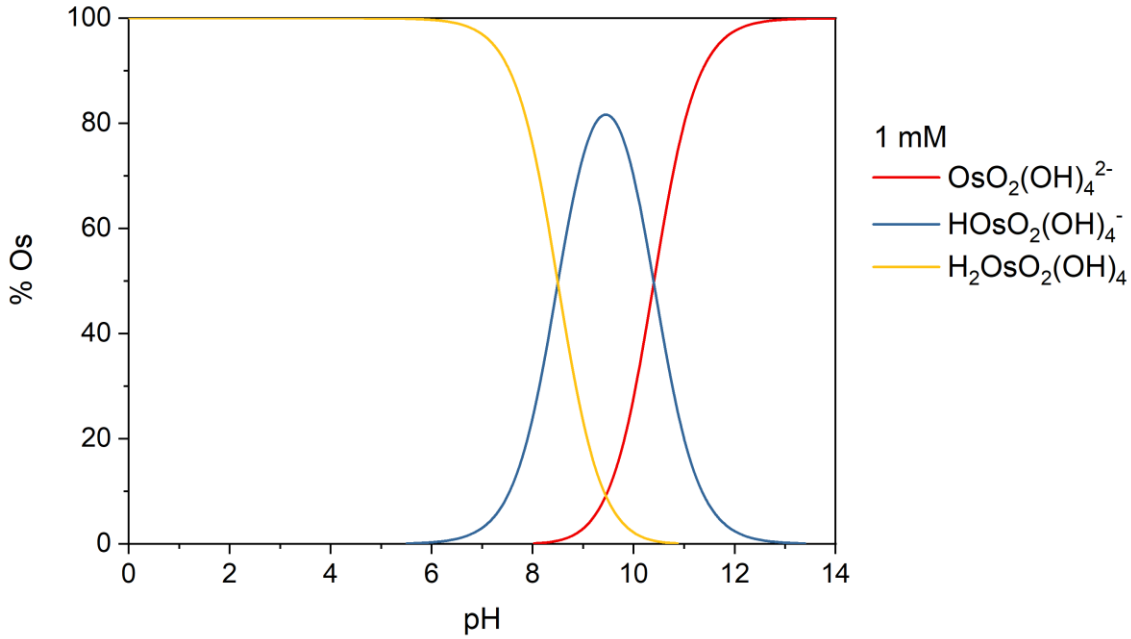
Osmium(VI)

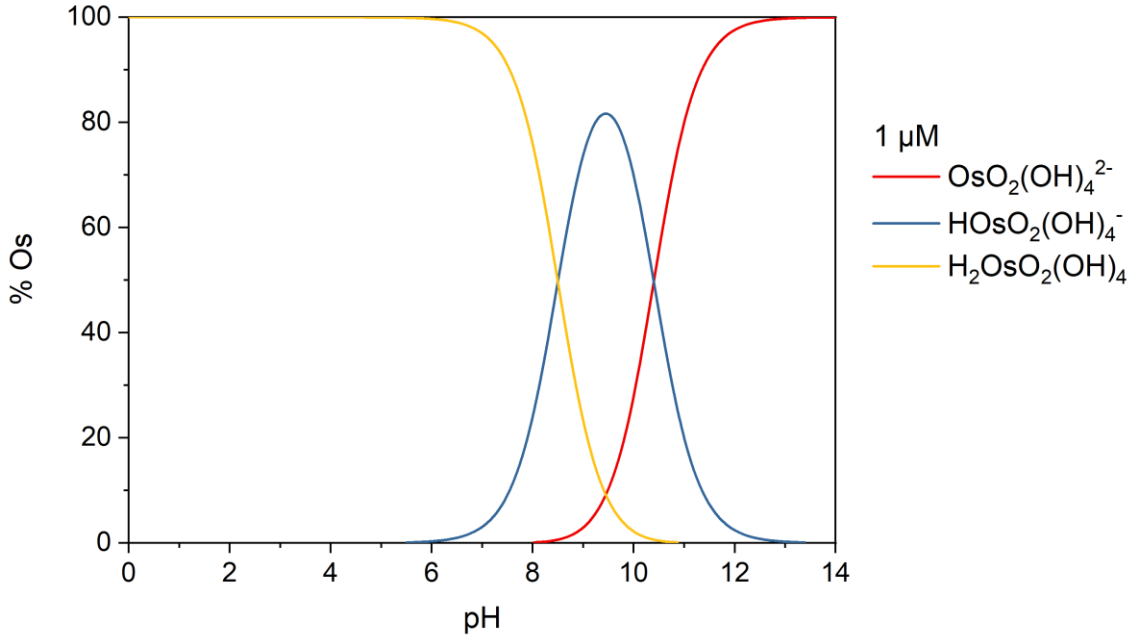
Equilibrium reactions	lg*K* at *I* = 0.1 M and *T* = 298 K
	Galbács et al., 1983
$OsO_2(OH)_4^{2-} + H^+ \rightleftharpoons HOsO_2(OH)_4^-$	10.4
$HOsO_2(OH)_4^- + H^+ \rightleftharpoons H_2OsO_2(OH)_4$	8.5

Z.M. Galbács, Á. Zsednai and L.J. Csányi, The acidic behaviour of osmium(VIII) and osmium(VI). Transition Met. Chem. 8, 328–332 (1983). doi:10.1007/BF00618563

Distribution diagrams

These diagrams have been computed at two Os(VI) concentrations (1 mM = $1x10^{-3}$ mol L^{-1} and 1 μM = $1x10^{-6}$ mol L^{-1}) with the equilibrium constants above. Calculations assume T = 298 K for the limiting case of zero ionic strength (*i.e.*, even neglecting plotted ions).





Osmium(VIII)

Equilibrium reactions	lg*K* at *I* = 0.1 M and *T* = 298 K	lg*K* at *I* = 2.5 M and *T* = 298 K
	Galbács et al., 1983	Galbács et al., 1983
$OsO_2(OH)_3(O^-)aq + H^+ \rightleftharpoons OsO_2(OH)_4aq$	12.2	
$OsO_2(OH)_2(O^-)_2aq + H^+ \rightleftharpoons OsO_2(OH)_3(O^-)aq$		14.4

Z.M. Galbács, Á. Zsednai and L.J. Csányi, The acidic behaviour of osmium(VIII) and osmium(VI). Transition Met. Chem. 8, 328–332 (1983). doi:10.1007/BF00618563

Contributors: Clemente Bretti, Elvira Bura Nakić, Montserrat Filella, Josep Galceran, Sofia Gama, Elżbieta Gumienna- Kontecka, Lucija Knežević, Gabriele Lando, Přemysl Lubal, Demetrio Milea, Andrzej Mular, Bartosz Orzeł, Michaela Rendošová, Matteo Savastano, Vladimir Sladkov, Kamila Stokowa-Sołtys, Yuliya Toporivska, Zuzana Vargová, Emanuele Zanda, Veronika Zinovyeva