

Equilibrium constants for hydrolysis and associated equilibria in critical compilations

Platinum

Please note that the value in green is indicative. Values by Azaroual et al. (2001) come from a thorough literature analysis combined with new experiments. Values for $\text{Pt}(\text{OH})_2$ are in line with data by Wood (1991), which is the reference considered by Brown and Ekberg (2016). Final differences come from the value of redox potential used to convert this constant to the hydrolysis constant in the two studies.

Equilibrium reactions	lgK at infinite dilution and $T = 298 \text{ K}$	
	Azaroual et al., 2001	Brown and Ekberg, 2016
$\text{Pt}^{2+} + \text{H}_2\text{O} \rightleftharpoons \text{Pt}(\text{OH})^+ + \text{H}^+$	10.91	
$\text{Pt}^{2+} + 2 \text{H}_2\text{O} \rightleftharpoons \text{Pt}(\text{OH})_2 + 2 \text{H}^+$	0.81	-7.3 ± 1.0

M. Azaroual, B. Romand, P. Freyssinet, J.R. Disnar. Solubility of platinum in aqueous solutions at 25°C and pHs 4 to 10 under oxidizing conditions. *Geochim. Cosmochim. Acta* 65, 4453–4466 (2001).

P.L. Brown and C. Ekberg, *Hydrolysis of Metal Ions*. Wiley, 2016, pp. 739–740.

S.A. Wood, Experimental determination of the hydrolysis constants of Pt^{2+} and Pd^{2+} at 25°C from the solubility of Pt and Pd in aqueous hydroxide solutions. *Geochim. Cosmochim. Acta* 55, 1759–1767 (1991).