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25 October 2021

Gold(I)

Reaction	Brown and Ekberg, 2016
$\text{Au(s)} + \text{H}_2\text{O} \rightleftharpoons \text{AuOH} + \text{H}^+$	6.16 ± 0.47

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 740–741.

Gold(III)

Reaction	Baes and Mesmer, 1976
$\text{Au(OH)}_3 + 2 \text{H}^+ \rightleftharpoons \text{AuOH}^{2+} + 2 \text{H}_2\text{O}$	1.51 ± 0.2
$\text{Au(OH)}_3 + \text{H}^+ \rightleftharpoons \text{Au(OH)}_2^+ + \text{H}_2\text{O}$	< 1.0
$\text{Au(OH)}_3 + \text{H}_2\text{O} \rightleftharpoons \text{Au(OH)}_4^- + \text{H}^+$	-11.77 ± 0.2
$\text{Au(OH)}_3 + 2 \text{H}_2\text{O} \rightleftharpoons \text{Au(OH)}_5^{2-} + 2 \text{H}^+$	-25.13 ± 0.1
$\text{Au(OH)}_5^{2-} + 3 \text{H}_2\text{O} \rightleftharpoons \text{Au(OH)}_6^{3-} + 3 \text{H}^+$	< -41.1
$\text{Au(OH)}_3(\text{c}) \rightleftharpoons \text{Au(OH)}_3$	-5.51 ± 0.07

C.F. Baes and R.E. Mesmer, *The Hydrolysis of Cations*. Wiley, New York, 1976, pp. 279–285.