# Praseodymium

| Equilibrium reactions | lg*K* at infinite dilution and *T* = 298 K | | |
|---|---|---|---|
| | Baes and Mesmer, 1976 | NIST46 | Brown and Ekberg, 2016 |
| $Pr^{3+} + H_2O \rightleftharpoons PrOH^{2+} + H^+$ | –8.1 | | –8.30 ± 0.03 |
| $2\ Pr^{3+} + 2\ H_2O \rightleftharpoons Pr_2(OH)_2^{4+} + 2\ H^+$ | | | –16.31 ± 0.20 |
| $3\ Pr^{3+} + 5\ H_2O \rightleftharpoons Pr_3(OH)_5^{4+} + 5\ H^+$ | | | –35.0 ± 0.3 |
| $Pr(OH)_3(s) + 3\ H^+ \rightleftharpoons Pr^{3+} + 3\ H_2O$ | 19.5 | | 18.57 ± 0.20 |
| $Pr(OH)_3(s) \rightleftharpoons Pr^{3+} + 3\ OH^-$ | | –22.3 ± 1.0 | |

C.F. Baes and R.E. Mesmer, The Hydrolysis of Cations. Wiley, New York, 1976, p. 137.

P.L. Brown and C. Ekberg, Hydrolysis of Metal Ions. Wiley, 2016, pp. 135-145.

NIST46, NIST Critically Selected Stability Constants of Metal Complexes: Version 8.0. Available at: www.nist.gov/srd/nist46

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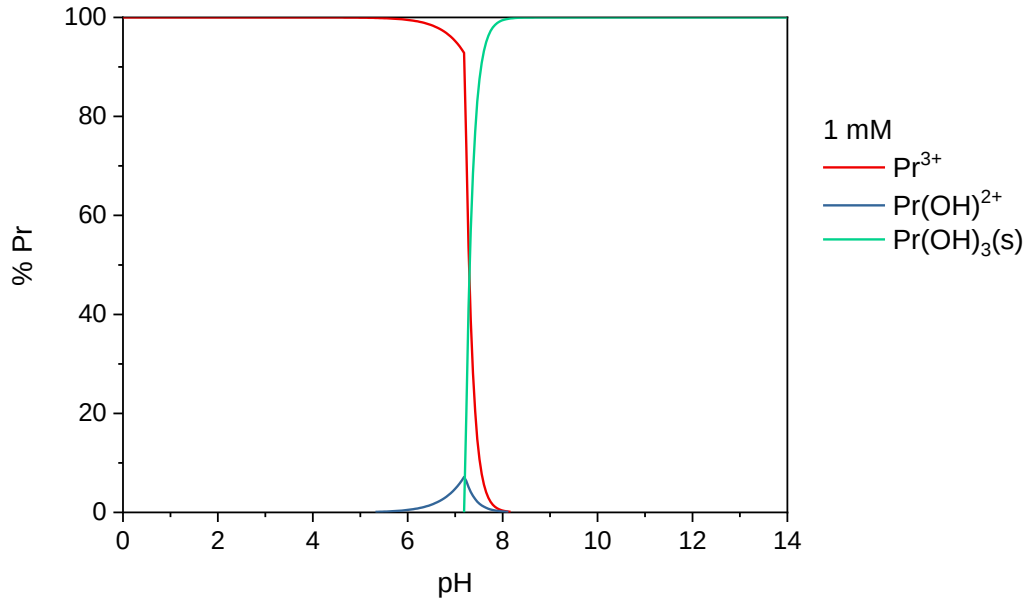
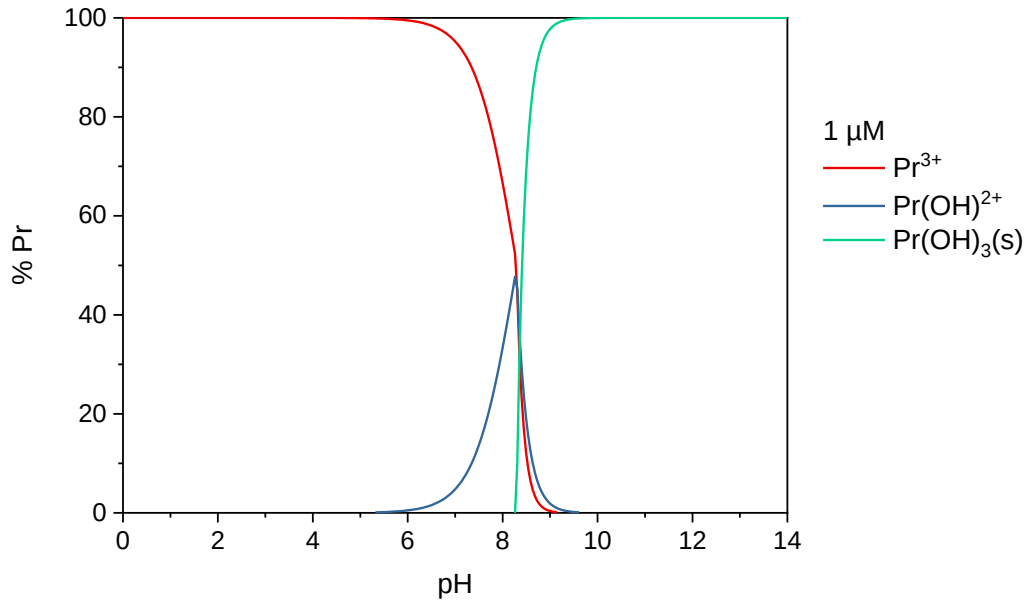
# Distribution diagrams

These diagrams have been computed at two Pr 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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