Arsenic(III)

Equilibrium reaction	lg*K* at infinite dilution and *T* = 298 K		
	Baes and Mesmer, 1976	Nordstrom and Archer, 2003	Nordstrom et al., 2014
$As(OH)_4^- + H^+ \rightleftharpoons As(OH)_3 + H_2O$	9.29	9.17	9.24 ± 0.02

C.F. Baes and R.E. Mesmer, The Hydrolysis of Cations. Wiley, New York, 1976, p. 370.

D.K. Nordstrom and D. Archer, Arsenic thermodynamic data and environmental geochemistry. In: Arsenic in Ground Water. Welch AH, Stollenwerk KG (eds) Kluwer Academic Publishers, Amsterdam, 2003, pp. 1–25.

D.K. Nordstrom, J. Majzlan and E. Königsberger, Thermodynamic properties for As minerals & aqueous species. Reviews in Mineralogy & Geochemistry, 79, 217–255 (2014).

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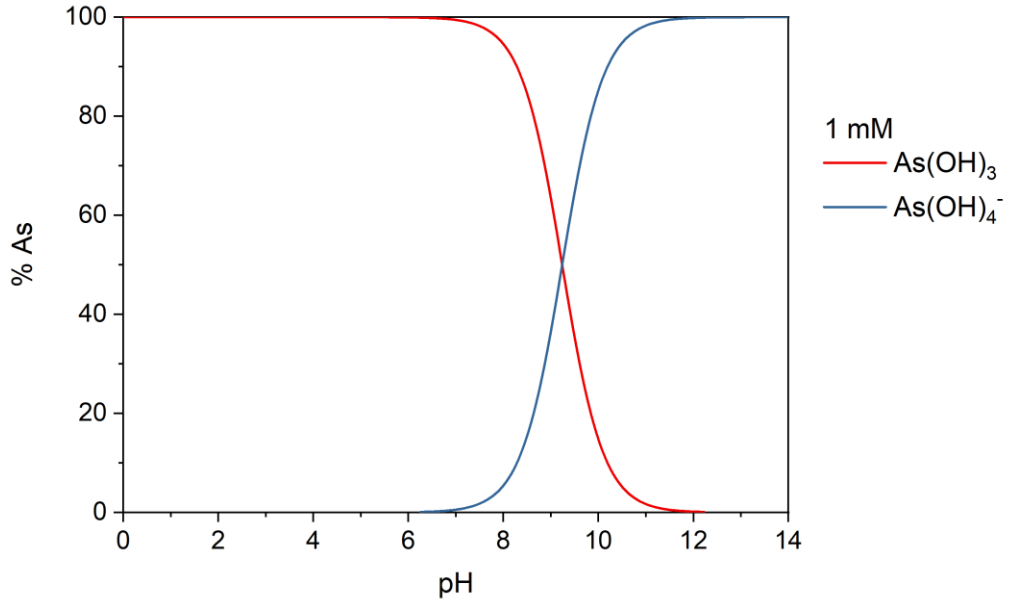
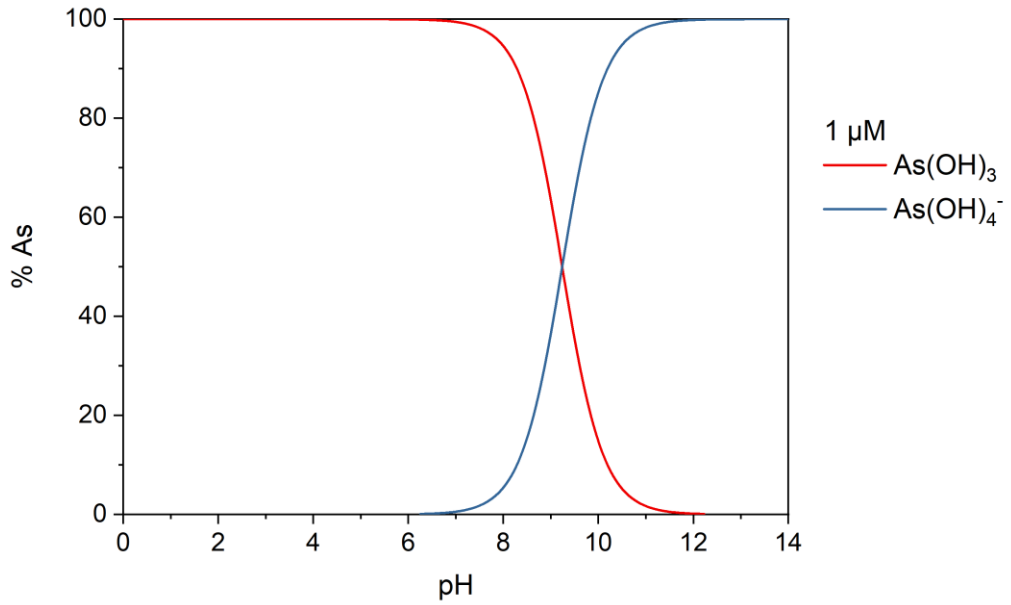
Distribution diagrams

These diagrams have been computed at two As(III) 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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Arsenic(V)

Equilibrium reaction	lg*K* at infinite dilution and *T* = 298 K			
	Baes and Mesmer, 1976	Khodakovsky et al., 1968	Nordstrom and Archer, 2003	Nordstrom et al., 2014
$H_2AsO_4^- + H^+ \rightleftharpoons H_3AsO_4$	2.24	2.21	2.26 ± 0.078	2.25 ± 0.04
$HAsO_4^{2-} + H^+ \rightleftharpoons H_2AsO_4^-$		6.93	6.99 ± 0.1	6.98 ± 0.11
$AsO_4^{3-} + H^+ \rightleftharpoons HAsO_4^{2-}$		11.51	11.80 ± 0.1	11.58 ± 0.05
$HAsO_4^{2-} + 2\ H^+ \rightleftharpoons H_3AsO_4$	9.20			
$AsO_4^{3-} + 3\ H^+ \rightleftharpoons H_3AsO_4$	20.70			

C.F. Baes and R.E. Mesmer, The Hydrolysis of Cations. Wiley, New York, 1976, p. 370.

I.L. Khodakovsky, B.N. Ryzhenko and G.B.Naumov, Thermodynamics of aqueous electrolyte solutions at elevated temperatures (Temperature dependence of the heat capacities of ions in aqueous solution). Geokhimiya, 12, 1486–1503, 1968.

D.K. Nordstrom and D. Archer, Arsenic thermodynamic data and environmental geochemistry. In: Arsenic in Ground Water. Welch AH, Stollenwerk KG (eds) Kluwer Academic Publishers, Amsterdam, 2003, pp. 1-25.

D.K. Nordstrom, J. Majzlan and E. Königsberger, Thermodynamic properties for As minerals & aqueous species. Reviews in Mineralogy & Geochemistry, 79, 217–255 (2014).

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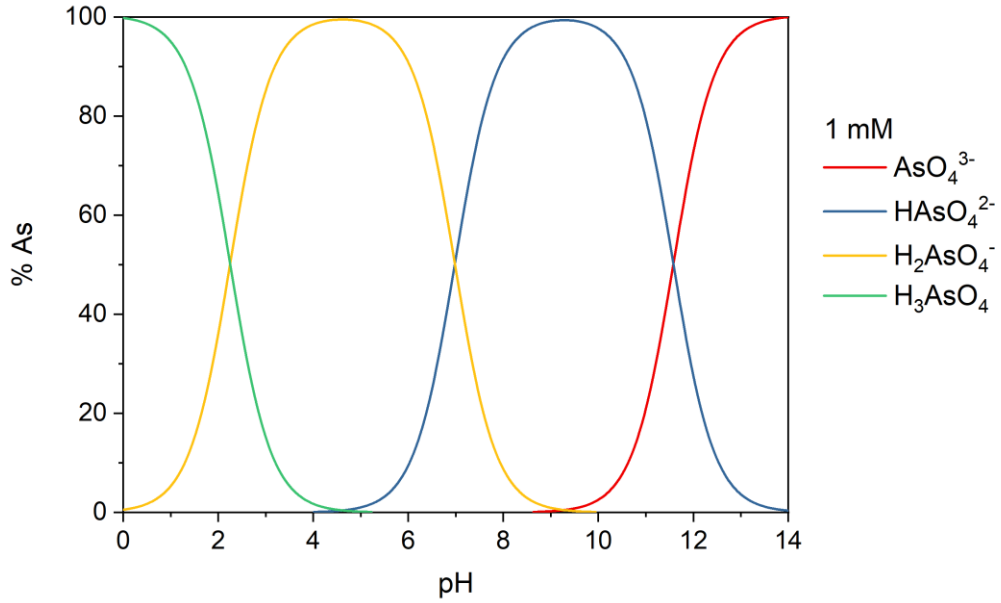
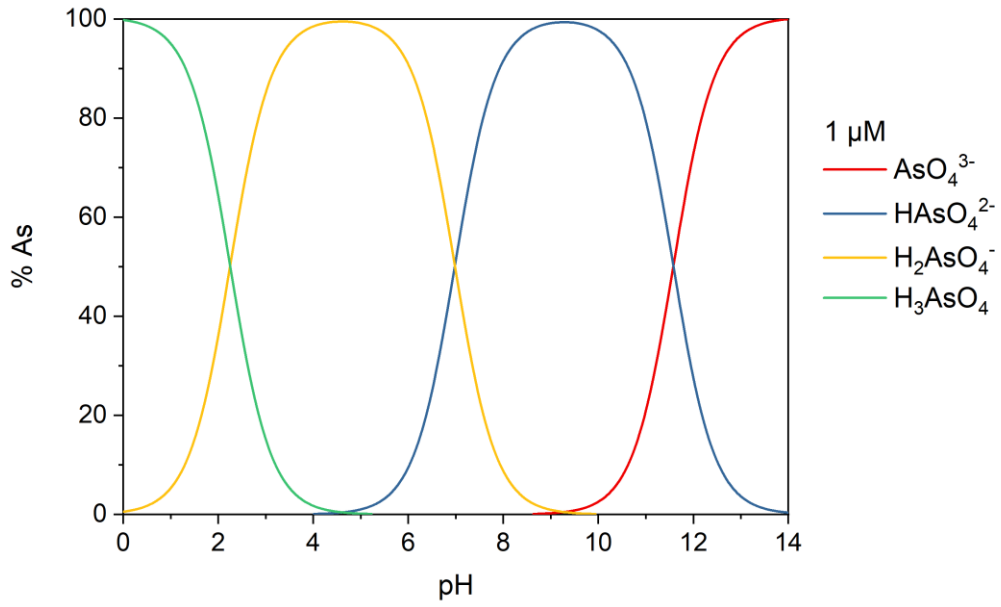
Distribution diagrams

These diagrams have been computed at two As(V) 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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