

NIST Standard Reference Database 46 Version 8.0
 NIST CRITICALLY SELECTED STABILITY CONSTANTS OF METAL COMPLEXES

C₁₆H₂₈N₄O₈ H₄L 1,4,7,10-Tetraazacyclododecane-N,N',N'',N'''-tetraacetic acid (DOTA)

H ⁺	[HL] / [L] [H]	log K (11.2) (1)	25C, 0.1 91
H ⁺	[HL] / [L] [H]	log K (11.7) (4)	25C, 0.1 128
H ⁺	[HL] / [L] [H]	log K (11.1)	25C, 1.0 5
H ⁺	[HL] / [L] [H]	H -8.4 -35. kJ/mol	25C, 0.1 128
H ⁺	[HL] / [L] [H]	S 25.4 106. J/(K mol)	25C, 0.1 128
H ⁺	[H ₂ L] / [HL] [H]	log K 9.73 (4)	25C, 0.1 91
H ⁺	[H ₂ L] / [HL] [H]	log K 9.70 (6)	25C, 0.1 128
H ⁺	[H ₂ L] / [HL] [H]	log K 9.23	25C, 1.0 5
H ⁺	[H ₂ L] / [HL] [H]	H -7.9 -33. kJ/mol	25C, 0.1 128
H ⁺	[H ₂ L] / [HL] [H]	S 17.9 74.8 J/(K mol)	25C, 0.1 128
H ⁺	[H ₃ L] / [H ₂ L] [H]	log K 4.44 (7)	25C, 0.1 91
H ⁺	[H ₃ L] / [H ₂ L] [H]	log K 4.59 (9)	25C, 0.1 128
H ⁺	[H ₃ L] / [H ₂ L] [H]	log K 4.24	25C, 1.0 5
H ⁺	[H ₃ L] / [H ₂ L] [H]	H -2.5 -10. kJ/mol	25C, 0.1 128
H ⁺	[H ₃ L] / [H ₂ L] [H]	S 12.6 52.7 J/(K mol)	25C, 0.1 128
H ⁺	[H ₄ L] / [H ₃ L] [H]	log K 4.34 (4)	25C, 0.1 91
H ⁺	[H ₄ L] / [H ₃ L] [H]	log K 4.14 (5)	25C, 0.1 128
H ⁺	[H ₄ L] / [H ₃ L] [H]	log K 4.18	25C, 1.0 5
H ⁺	[H ₄ L] / [H ₃ L] [H]	H -3.0 -12. kJ/mol	25C, 0.1 128
H ⁺	[H ₄ L] / [H ₃ L] [H]	S 8.9 37. J/(K mol)	25C, 0.1 128
H ⁺	[H ₅ L] / [H ₄ L] [H]	log K 2.35 (3)	25C, 0.1 128
H ⁺	[H ₅ L] / [H ₄ L] [H]	log K (1.9)	25C, 1.0 5
H ⁺	[H ₅ L] / [H ₄ L] [H]	H -1.7 -7.1 kJ/mol	25C, 0.1 128
H ⁺	[H ₅ L] / [H ₄ L] [H]	S 5.1 21. J/(K mol)	25C, 0.1 128
H ⁺	[H ₆ L] / [H ₅ L] [H]	log K (1.7)	25C, 1.0 5

5 NaCl used as background electrolyte.

91 K⁺ salt used as background electrolyte.

128 Tetramethylammonium salt as background electrolyte.

C16H28N4O8 H4L 1,4,7,10-Tetraazacyclododecane-N,N',N'',N'''-tetraacetic acid (

DOTA)

with the metal: H/+

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C₁₆H₂₈N₄O₈ H₄L 1,4,7,10-Tetraazacyclododecane-N,N',N'',N'''-tetraacetic acid (DOTA)

La ³⁺	[ML] / [M] [L]	log K 22.0(3)	25C, 0.1 33
La ³⁺	[MHL] / [ML] [H]	log K 2.5	25C, 0.1
33	K+ salt and adjusted for compatibility w/other values.		

C16H28N4O8 H4L 1,4,7,10-Tetraazacyclododecane-N,N',N'',N'''-tetraacetic acid (

DOTA)

with the metal: La/3+

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C₁₄H₂₃N₃O₁₀ H₅L Diethylenetrinitrilo pentaacetic acid (DTPA)

H ⁺	[HL] / [L] [H]	log K (9.90)	25C, 0.1 66
H ⁺	[HL] / [L] [H]	log K (9.67)	37C, 0.1566
H ⁺	[HL] / [L] [H]	log K 10.50(10)	25C, 0.1 91
H ⁺	[HL] / [L] [H]	log K 10.79(8)	25C, 0.1 118
H ⁺	[HL] / [L] [H]	log K 9.42	25C, 0.5 66
H ⁺	[HL] / [L] [H]	log K 9.49	20C, 0.5 66
H ⁺	[HL] / [L] [H]	log K 9.9	25C, 0.5 91
H ⁺	[HL] / [L] [H]	log K 9.48	20C, 1.0 66
H ⁺	[HL] / [L] [H]	log K 9.98(8)	25C, 1.0 91
H ⁺	[HL] / [L] [H]	log K 10.46	20C, 1.0 118
H ⁺	[HL] / [L] [H]	H -8.2 -34. kJ/mol	10C, 0.1 91
H ⁺	[HL] / [L] [H]	H -8.0(1) -33. kJ/mol	25C, 0.1 91
H ⁺	[HL] / [L] [H]	H -7.8 -32. kJ/mol	40C, 0.1 91
H ⁺	[HL] / [L] [H]	S 21.2 88.7 J/(K mol)	25C, 0.1 91
H ⁺	[H ₂ L] / [HL] [H]	log K (8.40)	25C, 0.1 66
H ⁺	[H ₂ L] / [HL] [H]	log K (8.27)	37C, 0.1566
H ⁺	[H ₂ L] / [HL] [H]	log K 8.60(9)	25C, 0.1 91
H ⁺	[H ₂ L] / [HL] [H]	log K 8.64	20C, 0.1 118
H ⁺	[H ₂ L] / [HL] [H]	log K 8.09	25C, 0.5 66
H ⁺	[H ₂ L] / [HL] [H]	log K 8.18	20C, 0.5 66
H ⁺	[H ₂ L] / [HL] [H]	log K 8.32	25C, 0.5 91
H ⁺	[H ₂ L] / [HL] [H]	log K 8.26	20C, 1.0 66
H ⁺	[H ₂ L] / [HL] [H]	log K 8.29(4)	25C, 1.0 91
H ⁺	[H ₂ L] / [HL] [H]	log K 8.41	20C, 1.0 118
H ⁺	[H ₂ L] / [HL] [H]	H -4.5 -18. kJ/mol	10C, 0.1 91
H ⁺	[H ₂ L] / [HL] [H]	H -4.3(1) -17. kJ/mol	25C, 0.1 91
H ⁺	[H ₂ L] / [HL] [H]	H -4.1 -17. kJ/mol	40C, 0.1 91
H ⁺	[H ₂ L] / [HL] [H]	S 24.9 104. J/(K mol)	25C, 0.1 91
H ⁺	[H ₃ L] / [H ₂ L] [H]	log K 4.28(4)	25C, 0.1
H ⁺	[H ₃ L] / [H ₂ L] [H]	log K 4.22(7)	37C, 0.15
H ⁺	[H ₃ L] / [H ₂ L] [H]	log K 4.10(2)	25C, 0.5
H ⁺	[H ₃ L] / [H ₂ L] [H]	log K 4.15(3)	25C, 1.0
H ⁺	[H ₃ L] / [H ₂ L] [H]	H -2.1 -8.7 kJ/mol	10C, 0.1
H ⁺	[H ₃ L] / [H ₂ L] [H]	H -1.5(1) -6.2 kJ/mol	25C, 0.1
H ⁺	[H ₃ L] / [H ₂ L] [H]	H -0.9 -3. kJ/mol	40C, 0.1
H ⁺	[H ₃ L] / [H ₂ L] [H]	S 14.6 61.0 J/(K mol)	25C, 0.1
H ⁺	[H ₄ L] / [H ₃ L] [H]	log K 2.70(9)	25C, 0.1
H ⁺	[H ₄ L] / [H ₃ L] [H]	log K 2.65	37C, 0.15
H ⁺	[H ₄ L] / [H ₃ L] [H]	log K 2.7(1)	25C, 0.5
H ⁺	[H ₄ L] / [H ₃ L] [H]	log K 2.6(1)	25C, 1.0
H ⁺	[H ₄ L] / [H ₃ L] [H]	H -0.6 -2. kJ/mol	10C, 0.1
H ⁺	[H ₄ L] / [H ₃ L] [H]	H -0.3(2) -1. kJ/mol	25C, 0.1
H ⁺	[H ₄ L] / [H ₃ L] [H]	H 0.0 0 kJ/mol	40C, 0.1
H ⁺	[H ₄ L] / [H ₃ L] [H]	S 11.4 47.6 J/(K mol)	25C, 0.1
H ⁺	[H ₅ L] / [H ₄ L] [H]	log K 2.0(2)	25C, 0.1
H ⁺	[H ₅ L] / [H ₄ L] [H]	log K 2.1	37C, 0.15
H ⁺	[H ₅ L] / [H ₄ L] [H]	log K 2.1(1)	25C, 0.5
H ⁺	[H ₅ L] / [H ₄ L] [H]	log K 2.1(2)	25C, 1.0
H ⁺	[H ₅ L] / [H ₄ L] [H]	H +0.2 .8 kJ/mol	10C, 0.1
H ⁺	[H ₅ L] / [H ₄ L] [H]	H +0.5(2) 2. kJ/mol	25C, 0.1
H ⁺	[H ₅ L] / [H ₄ L] [H]	H +0.8 3. kJ/mol	40C, 0.1
H ⁺	[H ₅ L] / [H ₄ L] [H]	S 10.8 45.1 J/(K mol)	25C, 0.1
H ⁺	[H ₆ L] / [H ₅ L] [H]	log K (1.6) (1)	25C, 0.1
H ⁺	[H ₆ L] / [H ₅ L] [H]	log K (1.5) (2)	25C, 1.0
H ⁺	[H ₇ L] / [H ₆ L] [H]	log K (0.7)	25C, 0.1
H ⁺	[H ₇ L] / [H ₆ L] [H]	log K (0.8) (1)	25C, 1.0
H ⁺	[H ₈ L] / [H ₇ L] [H]	log K (-0.1)	25C, 0.1

66 Na⁺ salt used as background electrolyte.

91 K⁺ salt used as background electrolyte.

118 Tetraalkyl ammonium salt used as background electrolyte.

C14H23N3O10 H5L Diethylenetrinitriopentaacetic acid (DTPA)
with the metal: H/+

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C₁₄H₂₃N₃O₁₀ H₅L Diethylenetrinitriopentaacetic acid (DTPA)

La ³⁺	[ML] / [M] [L]	log K 19.49(40)	25C, 0.1	91
La ³⁺	[ML] / [M] [L]	log K (18.23)	25C, 0.5	66
La ³⁺	[ML] / [M] [L]	H -5.3(4)	-22. kJ/mol	25C, 0.1
La ³⁺	[ML] / [M] [L]	S 71.4	298. J/(K mol)	25C, 0.1
La ³⁺	[MHL] / [ML] [H]	log K 2.60		20C, 0.1

66 Na⁺ salt used as background electrolyte.
91 K⁺ salt used as background electrolyte.

C14H23N3O10 H5L Diethylenetrinitriopentaacetic acid (DTPA)
with the metal: La/3+

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