IDL ICP-MS Range Analytik Jena

analytikjena
An Endress+Hauser Company

Instrumental 3 Sigma Detection Limits for the PlasmaQuant MS

The table shows instrumental limits of detection calculated from ten consecutive blank measurements and sensitivity. Limits of detection are subject to many variables such as lab conditions, grade of chemicals etc. and can therefore vary from the given value.

Isotope	Detection Limit (ng/L)			
	PQMS	PQMS Q	PQMS Elite S	PQMS Elite
^{7}Li	0.1	0.08	0.05	0.04
^{9}Be	1.2	0.8	0.5	0.4
^{11}B	21	13	8.6	6.9
^{23}Na	2.4	1.5	1.0	0.8
^{24}Mg	0.6	0.4	0.3	0.2
^{27}Al	0.9	0.6	0.4	0.3
^{39}K	2.1	1.3	0.9	0.7
^{40}Ca	4.5	2.8	1.9	1.5
^{45}Sc	11	6.6	4.4	3.5
^{48}Ti	1.8	1.1	0.8	0.6
^{51}V	0.2	0.1	0.08	0.06
^{52}Cr	0.3	0.2	0.1	0.1
^{55}Mn	0.3	0.2	0.1	0.1
^{56}Fe	0.6	0.4	0.3	0.2
^{59}Co	0.2	0.1	0.09	0.07
^{60}Ni	0.6	0.4	0.3	0.2
^{63}Cu	0.9	0.6	0.4	0.3
^{66}Zn	1.5	0.9	0.6	0.5
^{71}Ga	0.2	0.2	0.1	0.08
^{72}Ge	0.9	0.6	0.4	0.3
^{75}As	5.7	3.6	2.4	1.9
^{78}Se	8.8	5.5	3.6	2.9
^{85}Rb	0.2	0.1	0.08	0.06
^{88}Sr	0.06	0.04	0.03	0.02
^{89}Y	0.03	0.02	0.01	0.01

Isotope	Detection Limit (ng/L)			
	PQMS	PQMS Q	PQMS Elite S	PQMS Elite
^{90}Zr	0.2	0.09	0.06	0.05
^{93}Nb	0.06	0.04	0.03	0.02
^{98}Mo	0.2	0.1	0.09	0.07
^{101}Ru	0.2	0.1	0.08	0.06
^{103}Rh	0.02	0.02	0.01	0.008
^{108}Pd	0.06	0.04	0.03	0.02
^{107}Ag	0.09	0.06	0.04	0.03
^{114}Cd	0.09	0.06	0.04	0.03
^{115}In	0.0	0.02	0.01	0.01
^{120}Sn	0.3	0.2	0.1	0.09
^{121}Sb	0.1	0.08	0.05	0.04
^{125}Te	1.2	0.8	0.5	0.4
^{127}I	1.5	0.9	0.6	0.5
^{133}Cs	0.03	0.02	0.01	0.01
^{138}Ba	0.06	0.04	0.03	0.02
^{139}La	0.06	0.04	0.03	0.02
^{140}Ce	0.03	0.02	0.01	0.01
^{141}Pr	0.02	0.01	0.008	0.006
^{146}Nd	0.09	0.06	0.04	0.03
^{147}Sm	0.09	0.06	0.04	0.03
^{153}Eu	0.03	0.02	0.01	0.01
^{157}Gd	0.09	0.06	0.04	0.03
^{159}Tb	0.01	0.008	0.005	0.004
^{163}Dy	0.06	0.04	0.03	0.02
^{165}Ho	0.009	0.006	0.004	0.003

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Isotope	Detection Limit (ng/L)			
	PQMS	PQMS Q	PQMS Elite S	PQMS Elite
^{166}Er	0.03	0.02	0.01	0.009
^{169}Tm	0.01	0.008	0.005	0.004
^{172}Yb	0.06	0.04	0.03	0.02
^{175}Lu	0.009	0.006	0.004	0.003
^{178}Hf	0.06	0.04	0.03	0.02
^{181}Ta	0.02	0.009	0.006	0.005
^{182}W	0.06	0.04	0.03	0.02
^{185}Re	0.03	0.02	0.01	0.01
^{192}Os	0.6	0.4	0.3	0.2

Isotope	Detection Limit (ng/L)			
	PQMS	PQMS Q	PQMS Elite S	PQMS Elite
^{193}Ir	0.03	0.02	0.01	0.01
^{195}Pt	0.09	0.06	0.04	0.03
^{197}Au	0.09	0.06	0.04	0.03
$^{199\text{-}202}$Hg	0.3	0.2	0.1	0.1
^{205}Tl	0.03	0.02	0.01	0.01
$^{206\text{-}208}$Pb	0.06	0.04	0.03	0.02
^{209}Bi	0.03	0.02	0.01	0.01
^{232}Th	0.02	0.01	0.008	0.006
^{238}U	0.02	0.009	0.006	0.005

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