

Case example of the measurement using Puric ω ultrapure water

(Analysis example of the Triple Quadrupole ICP-MS)

Case example of measuring trace elements by ICP-MS

Agilent Technologies Taiwan Ltd. cooperated for the analysis for trace elements in Puric ω ultrapure water by using ICP-MS.

Analysis conditions

Analysis device : 8900 Triple Quadrupole ICP-MS, SPS 4 Autosampler (Agilent Technologies)

Analysis method: Connect Puric ω and SPS 4 Autosampler. Directly introduce ultrapure water overflowed inside SPS 4 into ICP-MS.



Analysis Data of major elements by ICP-MS 8900

Element	Mass No.	DL (ppt)	BEC (ppt)	Element	Mass No.	DL (ppt)	BEC (ppt)	Element	Mass No.	DL (ppt)	BEC (ppt)
Li	7	0.00	0.00	Zn	66	0.18	0.34	Sb	121	0.00	0.00
B	11	0.11	1.77	Ga	69	0.00	0.00	Te	125	0.00	0.00
Na	23	0.014	0.046	Ge	74	0.05	0.05	Cs	133	0.00	0.00
Mg	24	0.006	0.008	Se	78	0.07	0.198	Ba	138	0.00	0.00
Al	27	0.01	0.00	Rd	85	0.01	0.00	Hf	178	0.00	0.00
K	39	0.060	0.101	Sr	88	0.00	0.00	Ta	181	0.00	0.00
Ca	40	0.026	0.026	Zr	90	0.09	0.02	W	184	0.00	0.00
Cr	52	0.01	0.06	Nd	93	0.05	0.01	Pt	195	0.11	0.49
Mn	55	0.01	0.03	Ru	101	0.064	0.023	Au	197	0.06	0.08
Fe	56	0.06	0.15	Pd	105	0.017	0.007	Pb	208	0.036	0.03
Co	59	0.00	0.00	Ag	107	0.031	0.06	U	238	0.00	0.00
Ni	60	0.07	0.030	Cd	111	0.00	0.00				
Cu	63	0.076	0.151	Sn	118	0.17	0.07				

About the analysis results

Puric ω water is proven to be of high purity and suitable for trace analysis, as almost all elements exhibit ppq levels of BEC. Particularly, by connecting Puric ω and SPS 4 and introducing fresh water directly into ICP-MS, boron contamination and chromium elution were minimized.

*SPS 4 has a wider working space than normal autosamplers and is suitable for a large number of samples.



SPS 4

Ultrapure water introduction part



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For more information, visit our website!

<https://puric.organo.co.jp/en/>