Electronic Supplementary Material (ESI) for Analytical Methods.

Supplementary materials

Nanoporous anodic aluminum oxide films for UV/Vis detection of noble and non-noble metals

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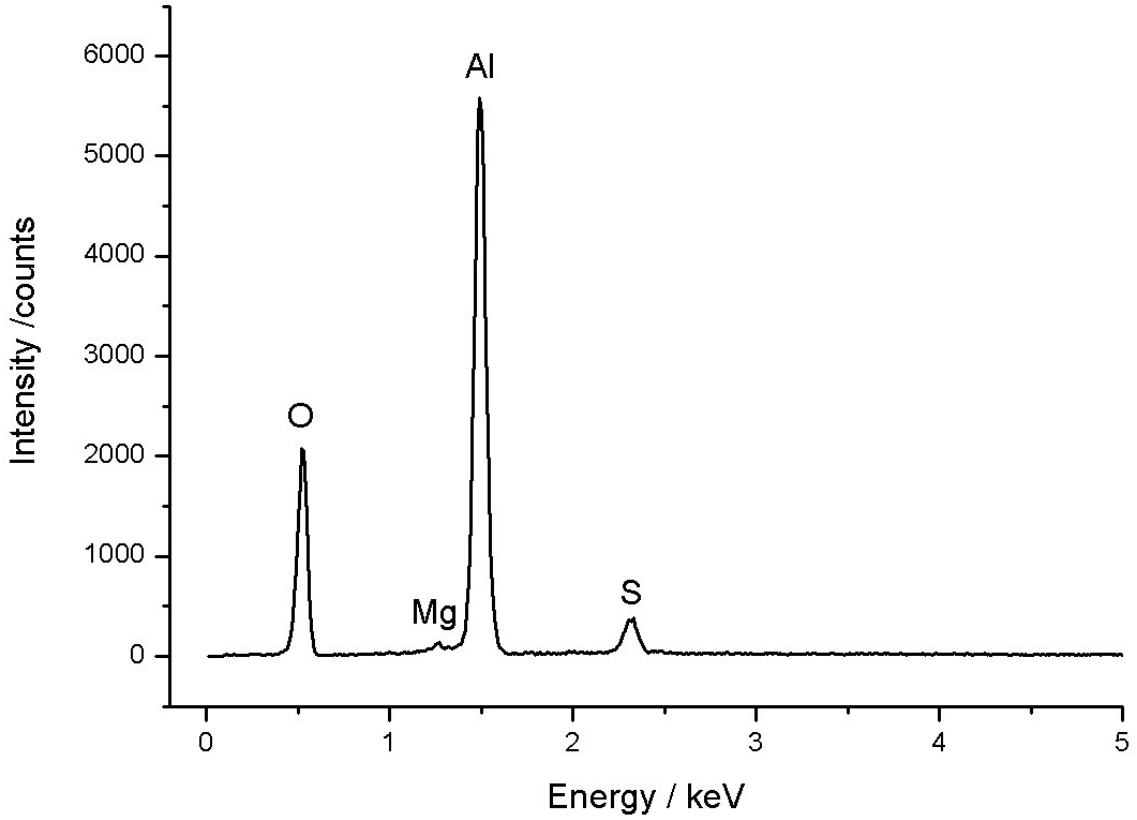

Figure S1. EDX spectra of Al-foil after two-step anodization in 0.6 M sulfosalycilic acid.

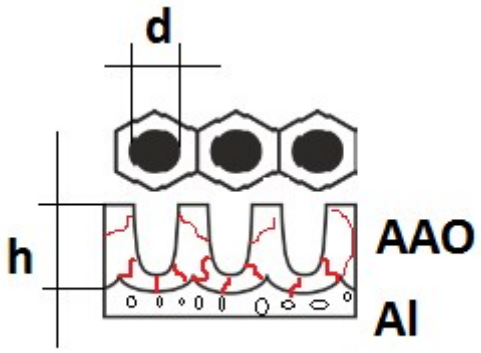

Figure S2. Schema of AAO fragment with Al-barrier layer: d – diameter of pore, h- height of pore. *Note:* possible places of Al migration through the micro-cracks within AAO are marked in red. If we assume a medium pore size of 50 nm, a pore distance of 10 nm and cylindrical channels inside the AAO, the porosity is equal to the pore surface ratio 54.5 %.

Table S1. Comparison of Al and Mg contents in distillate water before and after AAO immersion by ICP MS (immersion time 30 min, HR≥10000)

Element /isotopes	**Water before AAO**		**Water after AAO**		Calibration formula	R^2	LOD, ppt
	Concen-tration, ppt*	RSD, %	Concen-tration, ppt*	RSD, %			
Al_{27}	-51.4	5.5	2439.0	4.0	$Y=14.98 \cdot X - 350.41$	$R^2=0.9997$	100-3000
Mg_{24}	-141.4	3.6	258.2	1.7	$Y=9.41 \cdot X + 573.40$	$R^2=0.9999$	100-1500
Mg_{25}	-128.6	15.6	284.5	5.0	$Y=1.24 \cdot X + 74.10$	$R^2=0.9998$	100-1500
Mg_{26}	-107.7	3.4	298.9	5.7	$Y=1.33 \cdot X + 53.36$	$R^2=0.9992$	100-1500

* -results were obtained *via* subtraction of blind sample (distillate water).