

Supporting Information for

Atmospheric pressure preparation of ammonioalunite for highly efficient fluoride removal

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Table S1

The diffraction peak positions of ammonioalunite.

	(012)	(110)	(113)	(205)	(303)	(220)
PDF#42-1334	17.653°	25.376°	29.575°	39.028°	47.437°	52.165°
pH 3.0	17.572°	25.239°	29.531°	38.499°	47.321°	51.982°
pH 3.4	17.757°	25.421°	29.724°	38.726°	47.512°	52.179°

Table S2

The interplanar distances and unit cell parameters of ammonioalunite.

pH	(012) interplanar spacing(Å)	(113) interplanar spacing(Å)	(303) interplanar spacing(Å)	a(Å)	b(Å)	c(Å)
3.0	5.041	3.027	1.920	7.007	7.007	17.809
3.4	4.996	3.008	1.914	7.022	7.022	17.833

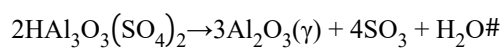
Deamination reaction (282 °C):



Dehydroxylation reaction (478 °C):



Desulfurization reaction (902 °C):



The formation of α - Al_2O_3 (1200 °C):

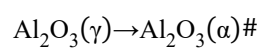


Table S3

Mass loss during the thermal decomposition process

Reaction	Mass loss (%)	
	expect	experimental
Deamination	4.33	3.44
Dehydroxylation	13.74	14.32
Desulfurization	43.00	43.47