materials

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Supplementary

Laponites® for the Recovery of ^{133}Cs, ^{59}Co and ^{88}Sr from Aqueous Solutions and Subsequent Storage: Impact of Grafted Silane Loads

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Table S1. General information about grafting agent, 3-aminopropyltriethoxysilane (APTES).

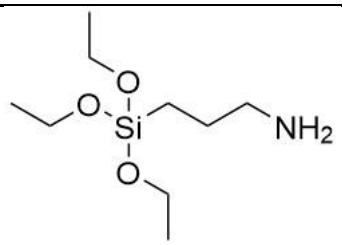
Structure	
Formula	$C_9H_{23}NO_3Si$
CAS-Number	919-30-2
Mass weight	221.37 g mol^{-1}

Table S2. Quantitative data extracted from TG curves of LAP-APTES, with OM content the organic matter content.

Load of APTES	OM Content [%]	APTES Content [mmol g^{-1}]	Grafting Yield [%]	Edge-Sites Occupation [CE_{edges}]
1 CEC	1.6	0.14	59.2	0.38
2 CEC	3.2	0.26	56.8	0.73
3 CEC	4.7	0.39	56.6	1.09
4 CEC	5.5	0.47	50.6	1.30
10 CEC	8.2	0.68	29.6	1.90

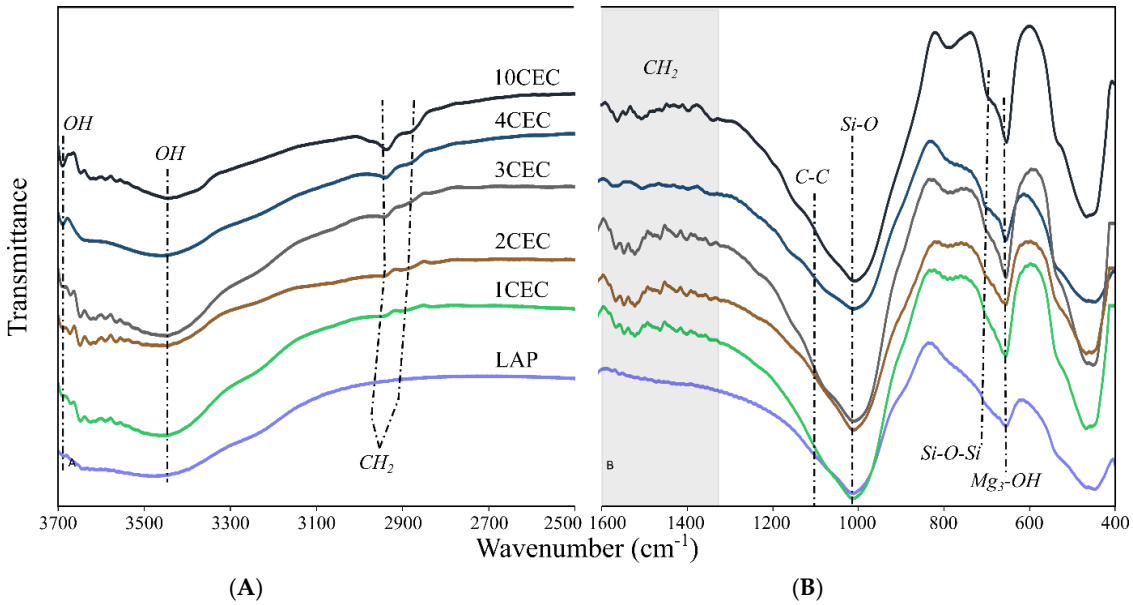


Figure S1. FTIR spectra of LAP and LAP-APTES synthetized with different loads of grafting agents for wavenumbers between 400 and 1600 cm^{-1} (**B**) and between 2500 and 3700 cm^{-1} (**A**).

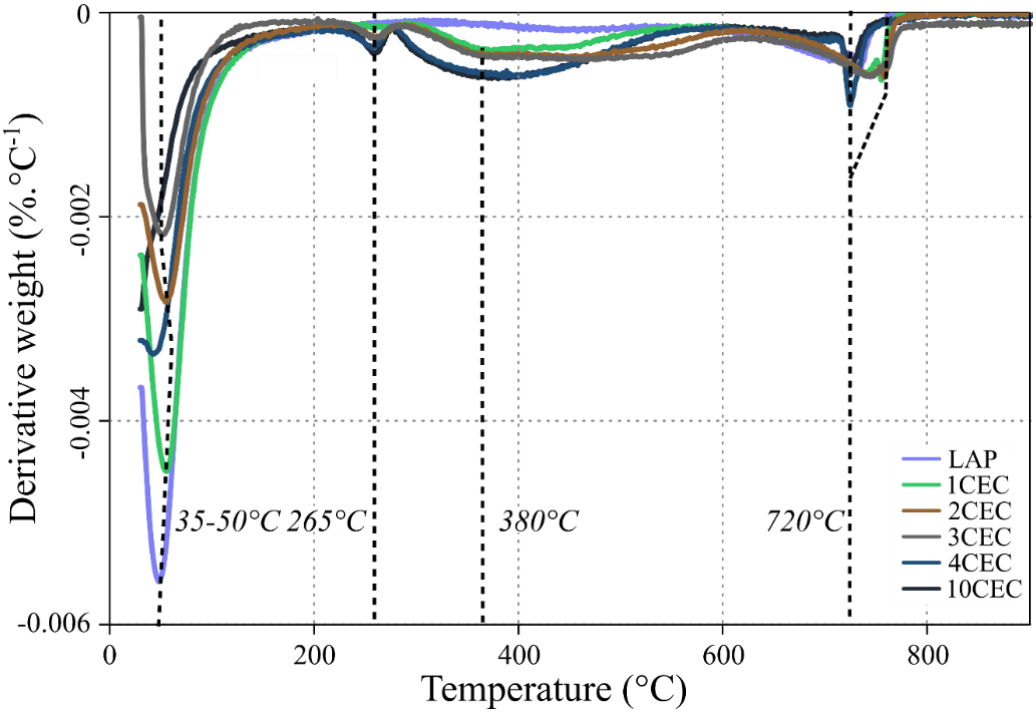


Figure S2. DTG curves of LAP and LAP-APTES for different loads of APTES.

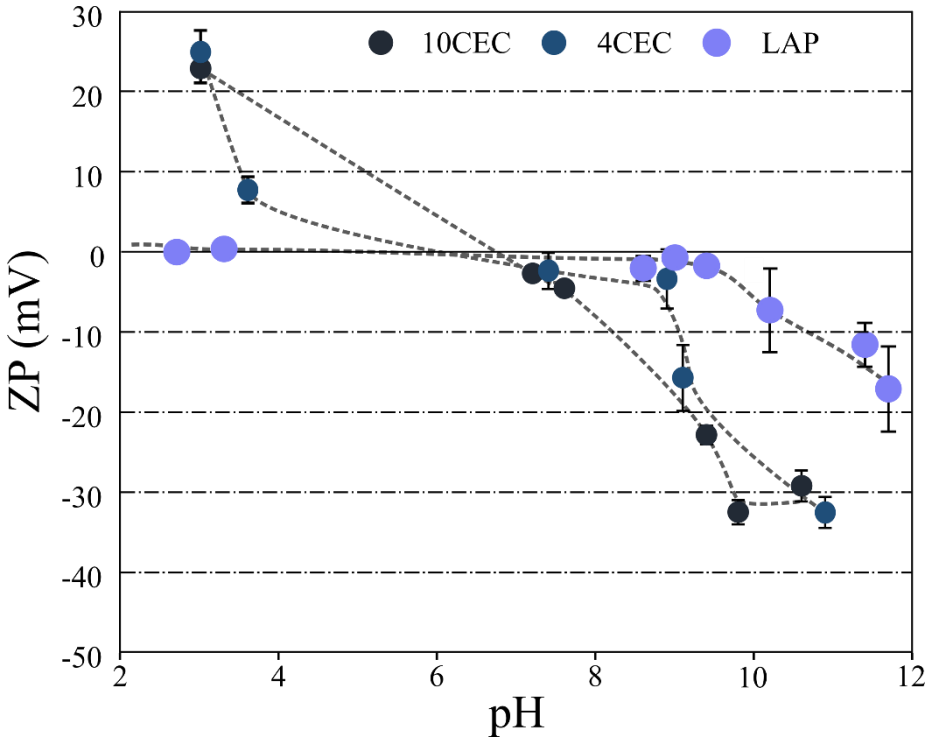


Figure S3. Zeta potential (ZP) of LAP, LAP-APTES-4CEC and LAP-APTES-10CEC as a function of pH.

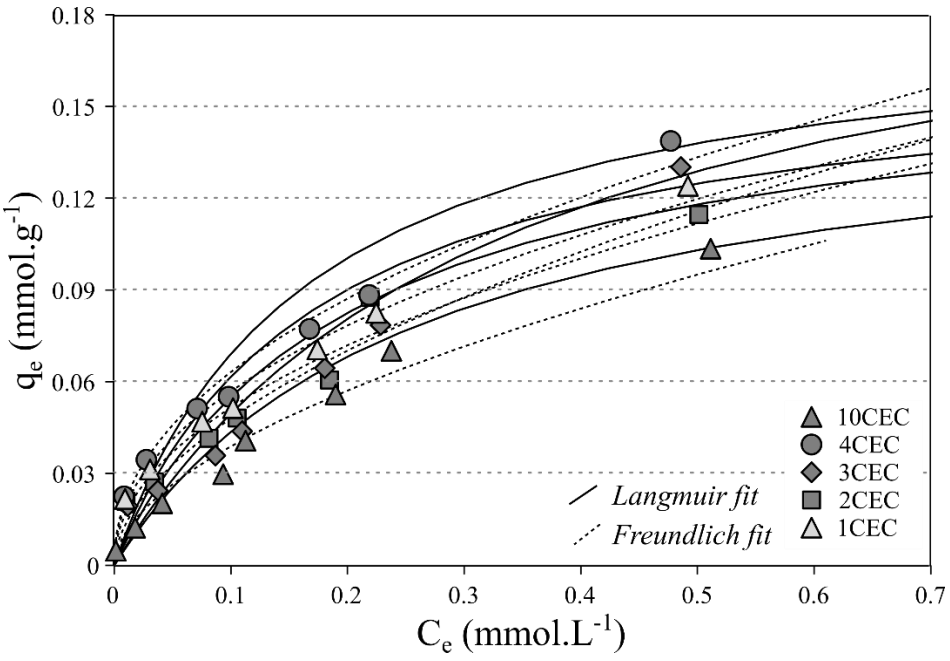


Figure S4. Single-solute adsorption isotherms at 293 K of Cs^+ onto LAP-APTES for different loads of APTES (pH = 6–6.5).

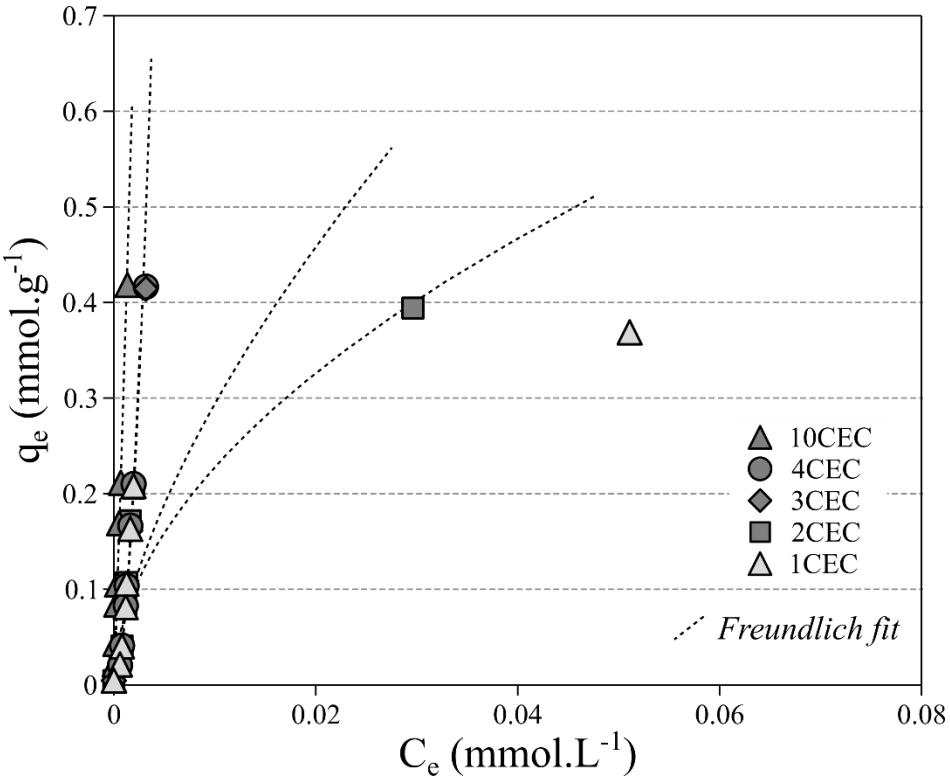


Figure S5. Competitive adsorption isotherms at 293 K of Co^{2+} onto LAP-APTES for different loads of APTES (pH = 6–6.5).

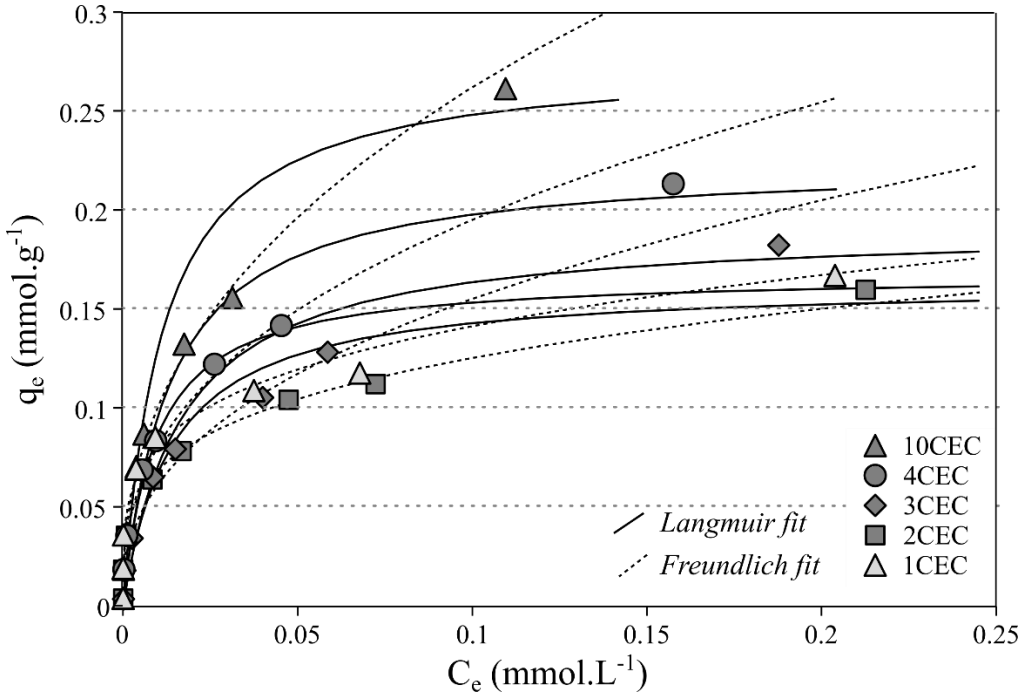


Figure S6. Competitive adsorption isotherms at 293 K of Sr^{2+} onto LAP-APTES for different loads of APTES (pH = 6–6.5).

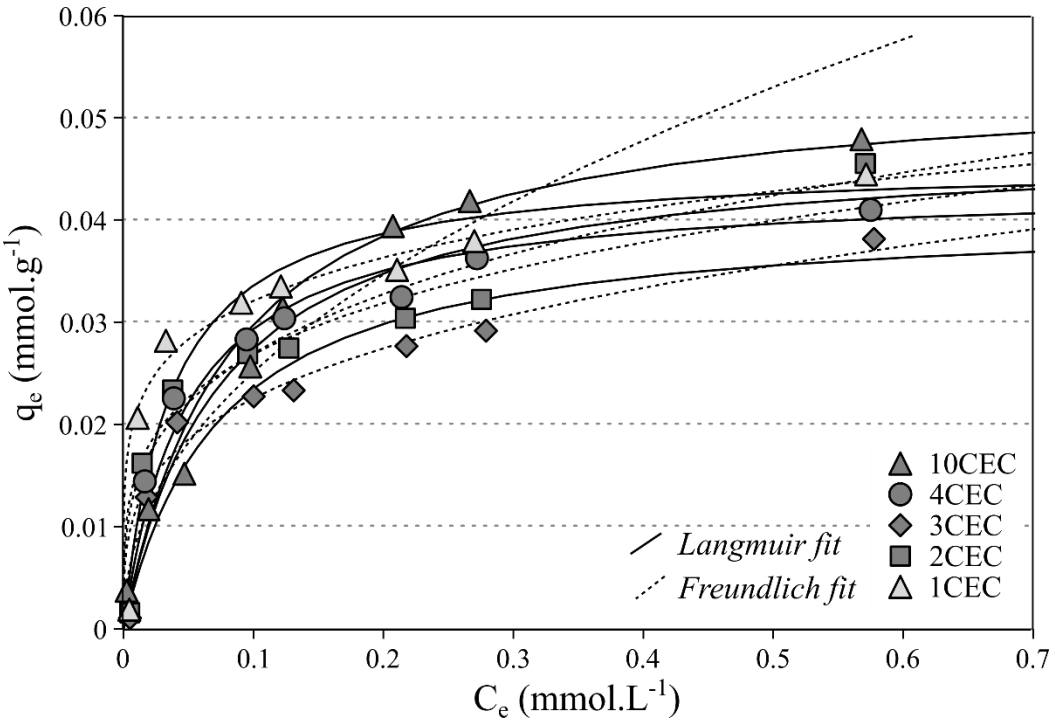


Figure S7. Competitive adsorption isotherms at 293 K of Cs^+ onto LAP-APTES for different loads of APTES (pH = 6–6.5).