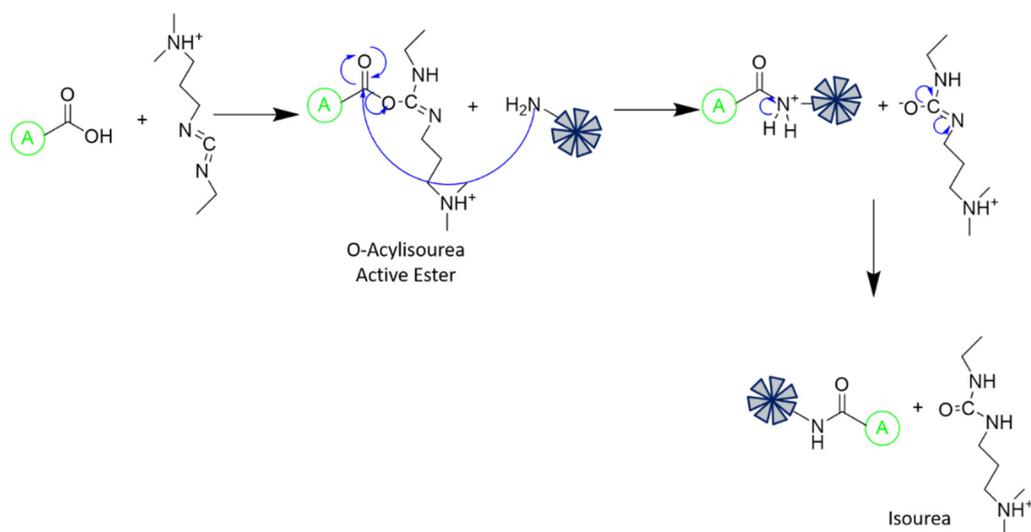


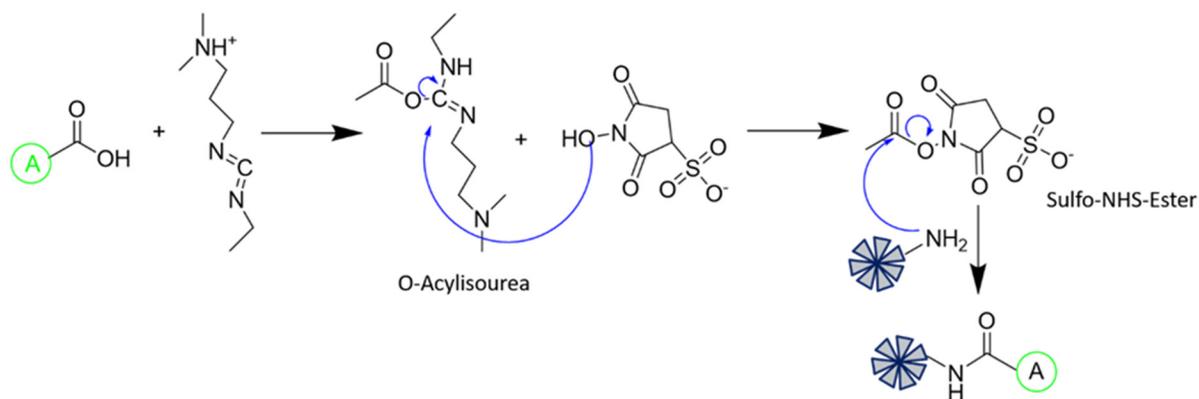
## Supplementary Materials



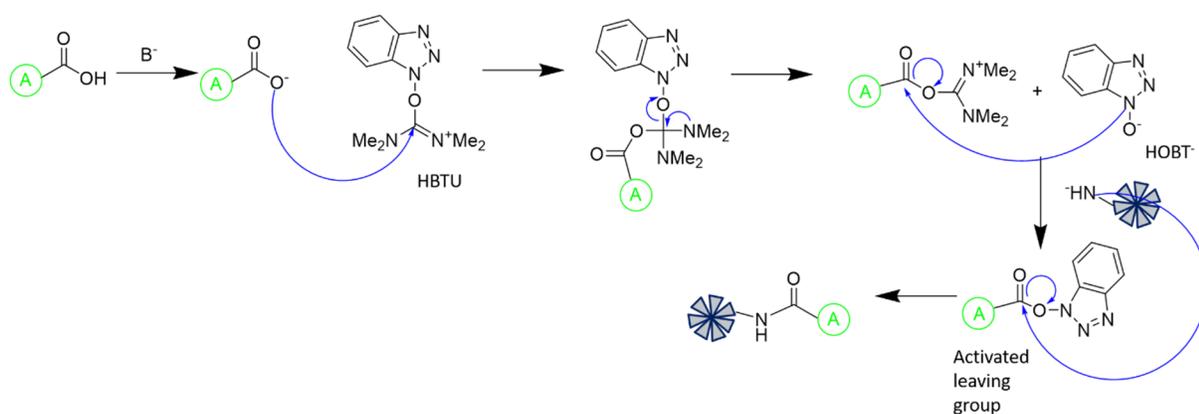
**Scheme S1.** Mechanism of cryptand grafting by EDC.

**Table S1.** Control experiments with APTES-STMS in MeOH: H<sub>2</sub>O (80:20) and in pure water. The value “0” means that the measure is below the detection limit of ICP-AES apparatus (0.07 ppm)

	MeOH: H <sub>2</sub> O (80:20)		H <sub>2</sub> O		
	1.1 mM Na <sup>+</sup>	5.5 mM Na <sup>+</sup>	0.7 mM Na <sup>+</sup> pH=7	3.7 mM Na <sup>+</sup> pH=7	3.7 mM Na <sup>+</sup> pH=5
Capture efficiency (%)	6.2	0	0.13	0	0.6
Capture capacity (nmol <sub>Na<sup>+</sup></sub> ·mg <sup>-1</sup> <sub><sup>1</sup>SiO<sub>2</sub></sub> )	56.7	0	1	0	11



**Scheme S2.** Mechanism of cryptand grafting by EDC-NHS.



**Scheme S3.** Mechanism of cryptand grafting by HBTU.

**Table S2.** Control experiments with PEI-STMS in pure water. The value “0” means that the measure is below the detection limit of ICP-AES apparatus (0.07 ppm)

	0.197 mM Na <sup>+</sup> pH=7	0.98 mM Na <sup>+</sup> pH=7
<b>Capture Capacity</b> (nmol <sub>Na<sup>+</sup></sub> ·mg <sup>-1</sup> <sub><sup>1</sup>SiO<sub>2</sub></sub> )	1.5	0
<b>Capture Efficiency (%)</b>	0.6	0