

## **Yttrium and europium separation by solvent extraction with undiluted thiocyanate ionic liquids**

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Electronic Supporting Information (ESI)

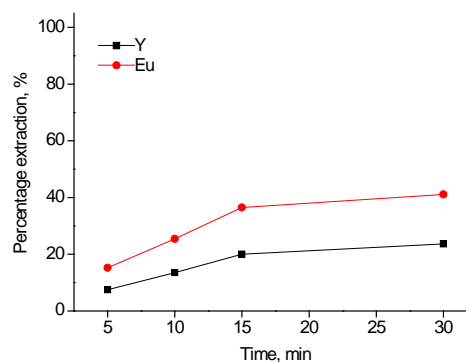
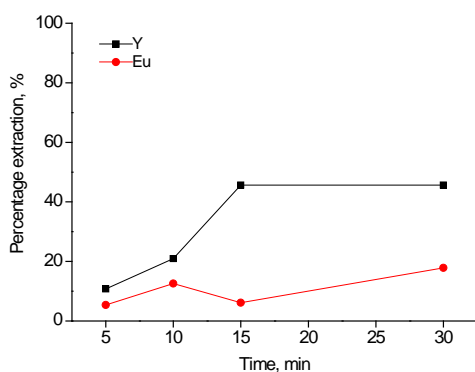


Fig. S1 Extraction of Y(III) and Eu(III) with the ionic liquid [C101][SCN] (left) and [A336][SCN] (right) as a function of time (Aqueous phase:  $[\text{CaCl}_2] = 4 \text{ mol L}^{-1}$ ,  $[\text{Y(III)}] = 3145 \text{ mg L}^{-1}$ ,  $[\text{Eu(III)}] = 215 \text{ mg L}^{-1}$ ; O/A = 1:1,  $T = 30 \text{ }^\circ\text{C}$ ).

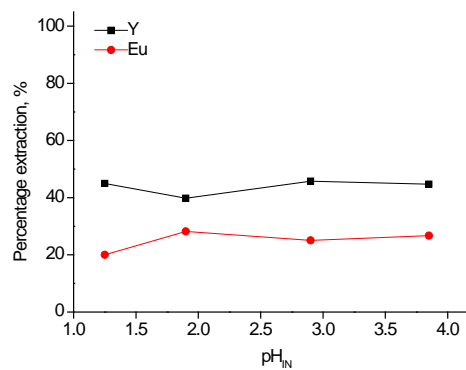
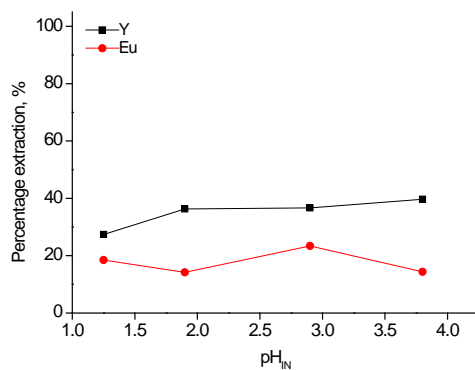


Fig. S2 Extraction of Y(III) and Eu(III) with the ionic liquid [C101][SCN] (left) and [A336][SCN] (right) as a function of the initial pH (Aqueous phase:  $[\text{CaCl}_2] = 4 \text{ mol L}^{-1}$ ,  $[\text{Y(III)}] = 3145 \text{ mg L}^{-1}$ ,  $[\text{Eu(III)}] = 215 \text{ mg L}^{-1}$ ; O/A = 1:1,  $T = 30 \text{ }^\circ\text{C}$ ,  $t = 30 \text{ min}$ ).

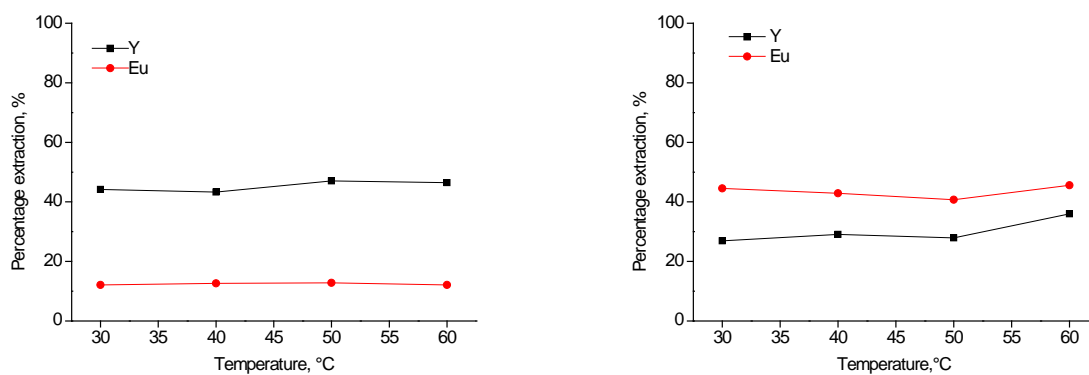


Fig. S3 Extraction of Y(III) and Eu(III) with the ionic liquid [C101][SCN] (left) and [A336][SCN] (right) as a function of temperature (Aqueous phase:  $[CaCl_2] = 4 \text{ mol L}^{-1}$ ,  $[Y(III)] = 3145 \text{ mg L}^{-1}$ ,  $[Eu(III)] = 215 \text{ mg L}^{-1}$ ; O/A = 1:1,  $t = 30 \text{ min}$ ).

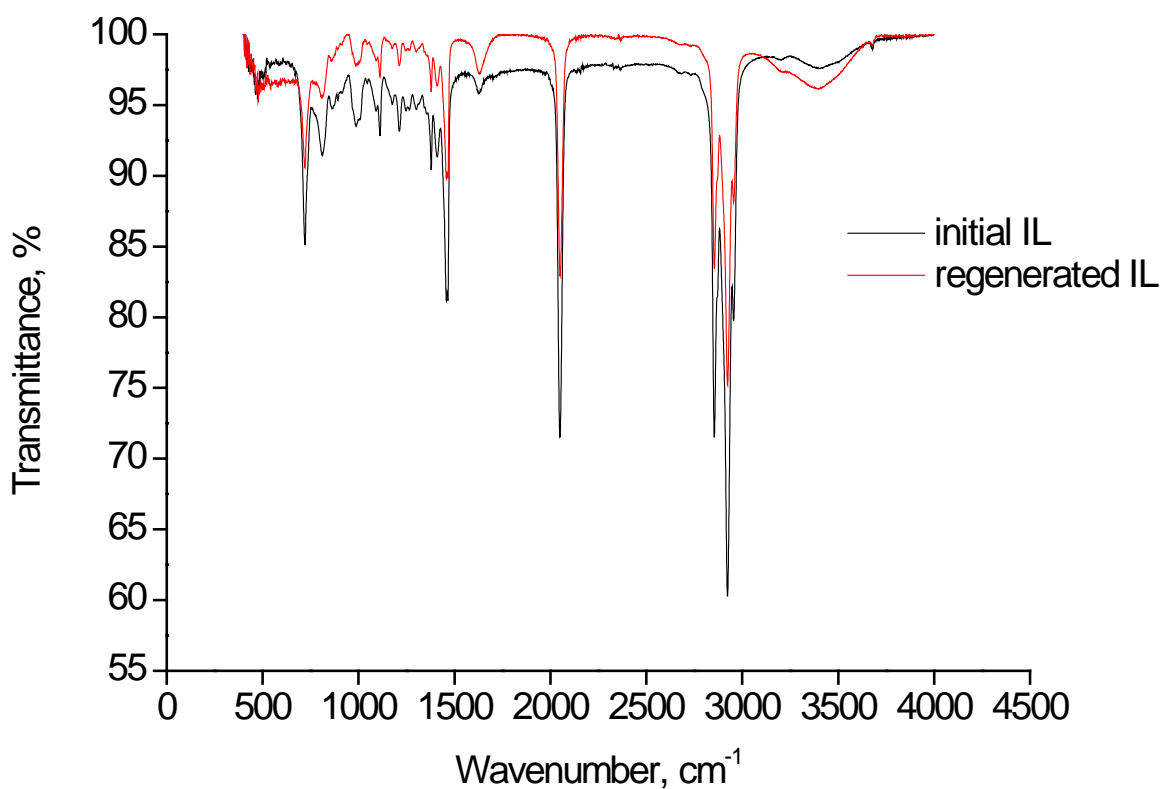


Fig. 4 FTIR spectra of the initial ionic liquid and the regenerated one.