Supporting Information

Identification of radiolytic products of [C₄mim][NTf₂] and their effect on the Sr²⁺ extraction

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S – 3 Fig S2 The ¹⁹F NMR spectra of CF₃SO₂OH, [C₄mim][NTf₂], CF₃SO₂NH₂ and CF₃SOONa standard compounds.
S – 4 Fig S3 The ¹⁹F NMR spectra of CF₃SO₂NH₂ at different pH.
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Fig S1 The Micro-FTIR spectra of CF$_3$SO$_2$NH$_2$ (a) and the water-washed phase of irradiated [C$_4$mim][NTf$_2$] (b).
Fig S2 The $^{19}$F NMR spectra of CF$_3$SO$_2$OH, [C$_4$mim][NTf$_2$], CF$_3$SO$_2$NH$_2$ and CF$_3$SOONa standard compounds. (a: CF$_3$SO$_2$OH, -78.42 ppm; b: [C$_4$mim][NTf$_2$], -78.78 ppm; c: CF$_3$SO$_2$NH$_2$, -79.36 ppm; d: CF$_3$SOONa, -78.07 ppm)
Fig S3 The $^{19}$F NMR spectra of CF$_3$SO$_2$NH$_2$ at different pH (a: pH ca. 3; b: pH ca. 8).
Fig S4 Fourier transform magnitude (—) of the Sr K-edge EXAFS and first shell best fit (- -) of the Sr–crown ether complexes present in [C₄mim][NTf₂] solutions. (a) 0.01 M Sr(NO₃)₂ (aq) contacted with 0.1 M DCH18C6 in unirradiated [C₄mim][NTf₂], (b) 0.01M Sr(NO₃)₂ (aq) contacted with 0.1 M DCH18C6 in irradiated [C₄mim][NTf₂] at 550 kGy, (c) 0.01M Sr(NO₃)₂ (aq) contacted with 0.1 M DCH18C6 in water-washed irradiated [C₄mim][NTf₂].
Fig S5 UV-vis spectra of irradiated [C₄mim][NTf₂] and water-washed irradiated [C₄mim][NTf₂] (a – e : 0, 100, 200, 300, 400, 500 kGy). Inset shows the relationship between absorption at 285 nm and doses.