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## **Supplementary information**

Figures below show <sup>1</sup>H NMR spectra evolution over time: 4, 22 and 37 days after sample 2 purification. Signals of *t*-BuOH (at about 0.1mol.L<sup>-1</sup>) from the working (*in*) and reference (*out*) solutions are spotted in red and green arrows respectively. Some of the degradation products have peak (not assigned) intensities that appear as large as the *t*-BuOH remaining one, within 20 days.





Figure below shows t-BuOH degradation over time from <sup>1</sup>H signals integration.

