

## Supporting Information

When the acetone trap solution was evaporated to near dryness in a beaker, the FT-IR spectrum (red line) showed a peak at  $1648\text{ cm}^{-1}$  which is characteristic of  $\text{HNO}_3$  bonded to the TBP of the  $(\text{UO}_2)(\text{NO}_3)_2(\text{TBP})_2$  complex according to the literature (*Solvent Extr. Ion Exch.*, 2003, **21**, 1-27.). If dodecane and water were added to the beaker, the FT-IR spectrum of the dodecane phase (blue line) showed a significant reduction of the  $1648\text{ cm}^{-1}$  peak intensity which is consistent with the literature report of the FT-IR spectrum for  $(\text{UO}_2)(\text{NO}_3)_2(\text{TBP})_2$ . The FT-IR spectra were acquired using a Nicolet Magna 760 FT-IR spectrometer equipped with a DTGS detector.

