

*Supplementary Data for*

**SOLUBILITY OF Ca(II), Ni(II), Nd(III) AND Pu(IV) IN THE PRESENCE OF PROXY  
LIGANDS FOR THE DEGRADATION OF POLYACRYLONITRILE IN CEMENTITIOUS  
SYSTEMS**

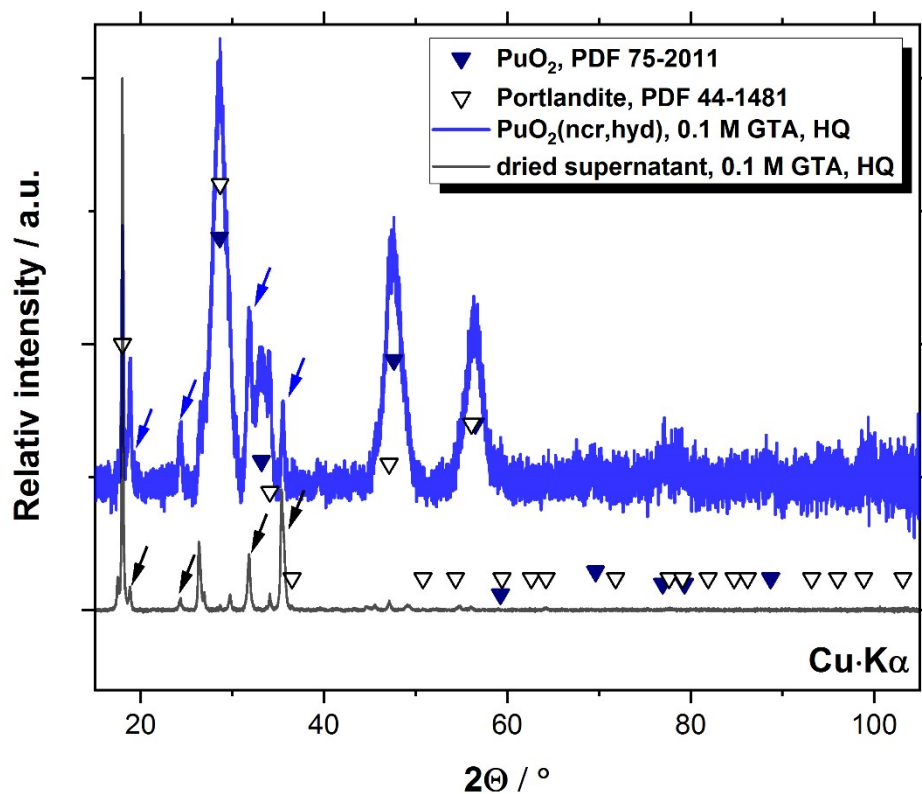
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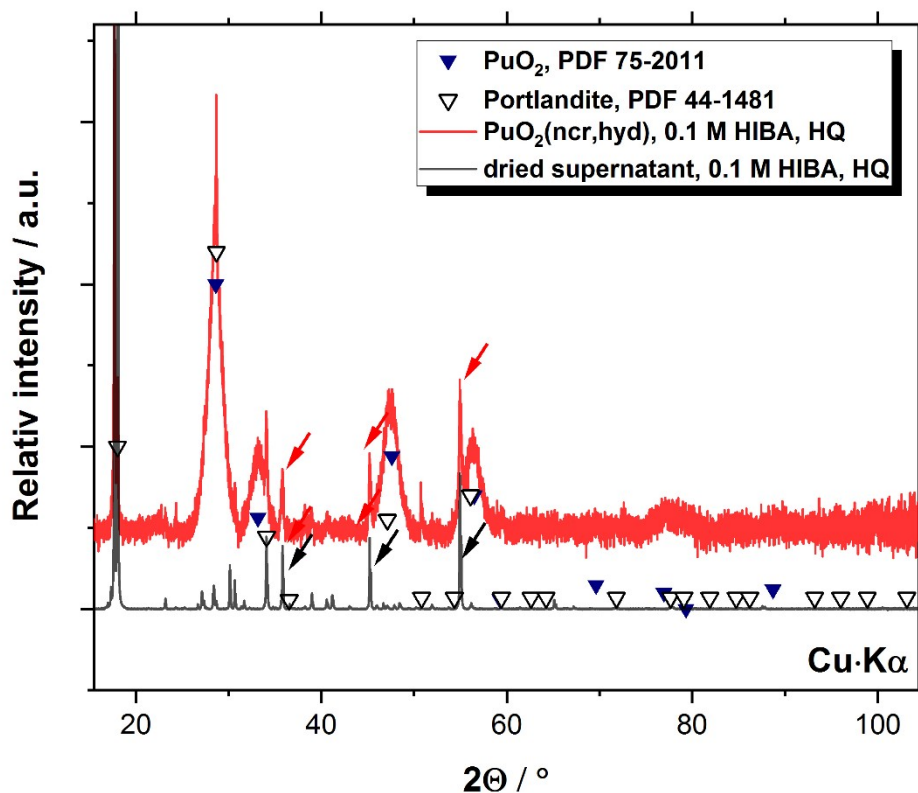
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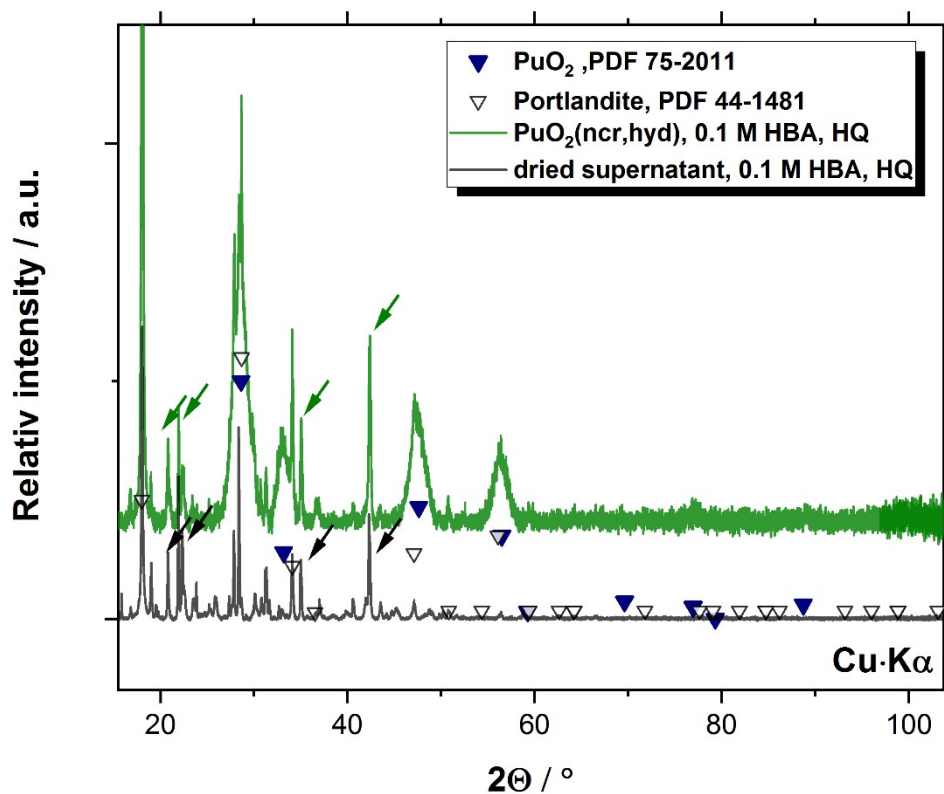
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**Figure SI-1.** Blue line corresponds to the XRD pattern of the Pu(IV) solid phase after equilibration in the solubility experiments with GTA at  $[L]_{tot} = 0.1$  M and HQ as redox buffer. Black lines shows the XRD pattern of the supernatant solution dried under Ar conditions, with  $[Ca] \approx 0.02$  M and  $[Pu] \approx 10^{-11}$  M. Symbols reproduce the patterns reported for PuO<sub>2</sub>(cr) (PDF-75-2011) and portlandite (Ca(OH)<sub>2</sub>(cr), PDF-44-1481) reference materials. Blue arrows highlight those patterns coincident for the solid phase and dried supernatant, but belonging to neither PuO<sub>2</sub>(cr) nor Ca(OH)<sub>2</sub>(cr).



**Figure SI-2.** Red line corresponds to the XRD pattern of the Pu(IV) solid phase after equilibration in the solubility experiments with HIBA at  $[L]_{tot} = 0.1$  M and HQ as redox buffer. Black lines shows the XRD pattern of the supernatant solution dried under Ar conditions, with  $[Ca] \approx 0.02$  M and  $[Pu] \approx 10^{-11}$  M. Symbols reproduce the patterns reported for PuO<sub>2</sub>(cr) (PDF-75-2011) and portlandite (Ca(OH)<sub>2</sub>(cr), PDF-44-1481) reference materials. Red arrows highlight those patterns coincident for the solid phase and dried supernatant, but belonging to neither PuO<sub>2</sub>(cr) nor Ca(OH)<sub>2</sub>(cr).



**Figure SI-3.** Green line corresponds to the XRD pattern of the Pu(IV) solid phase after equilibration in the solubility experiments with HBA at  $[L]_{tot} = 0.1$  M and HQ as redox buffer. Black lines shows the XRD pattern of the supernatant solution dried under Ar conditions, with  $[Ca] \approx 0.02$  M and  $[Pu] \approx 10^{-11}$  M. Symbols reproduce the patterns reported for PuO<sub>2</sub>(cr) (PDF-75-2011) and portlandite (Ca(OH)<sub>2</sub>(cr), PDF-44-1481) reference materials. Green arrows highlight those patterns coincident for the solid phase and dried supernatant, but belonging to neither PuO<sub>2</sub>(cr) nor Ca(OH)<sub>2</sub>(cr).