Electronic Supplementary Information for Dalton Transactions

Electronic Supplementary Information (ESI) for:

$[(CH_3)_2NH(CH_2)_2NH(CH_3)_2][(UO_2)_2F_2(HPO_4)_2]$: A new organically templated layered uranium phosphate fluoride – Synthesis, structure, characterization, and ion-exchange reactions

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S1. Experimental and calculated powder X-ray diffraction patterns for $[(CH_3)_2NH(CH_2)_2NH(CH_3)_2][(UO_2)_2F_2(HPO_4)_2]$

S2. Thermogravimetric analysis diagram and powder X-ray diffraction patterns at various temperatures for $[(CH_3)_2NH(CH_2)_2NH(CH_3)_2][UO_2F(PO_4)]$

S3. IR and Raman vibrations (cm^{-1}) for $[(CH_3)_2NH(CH_2)_2NH(CH_3)_2][(UO_2)_2F_2(HPO_4)_2]$

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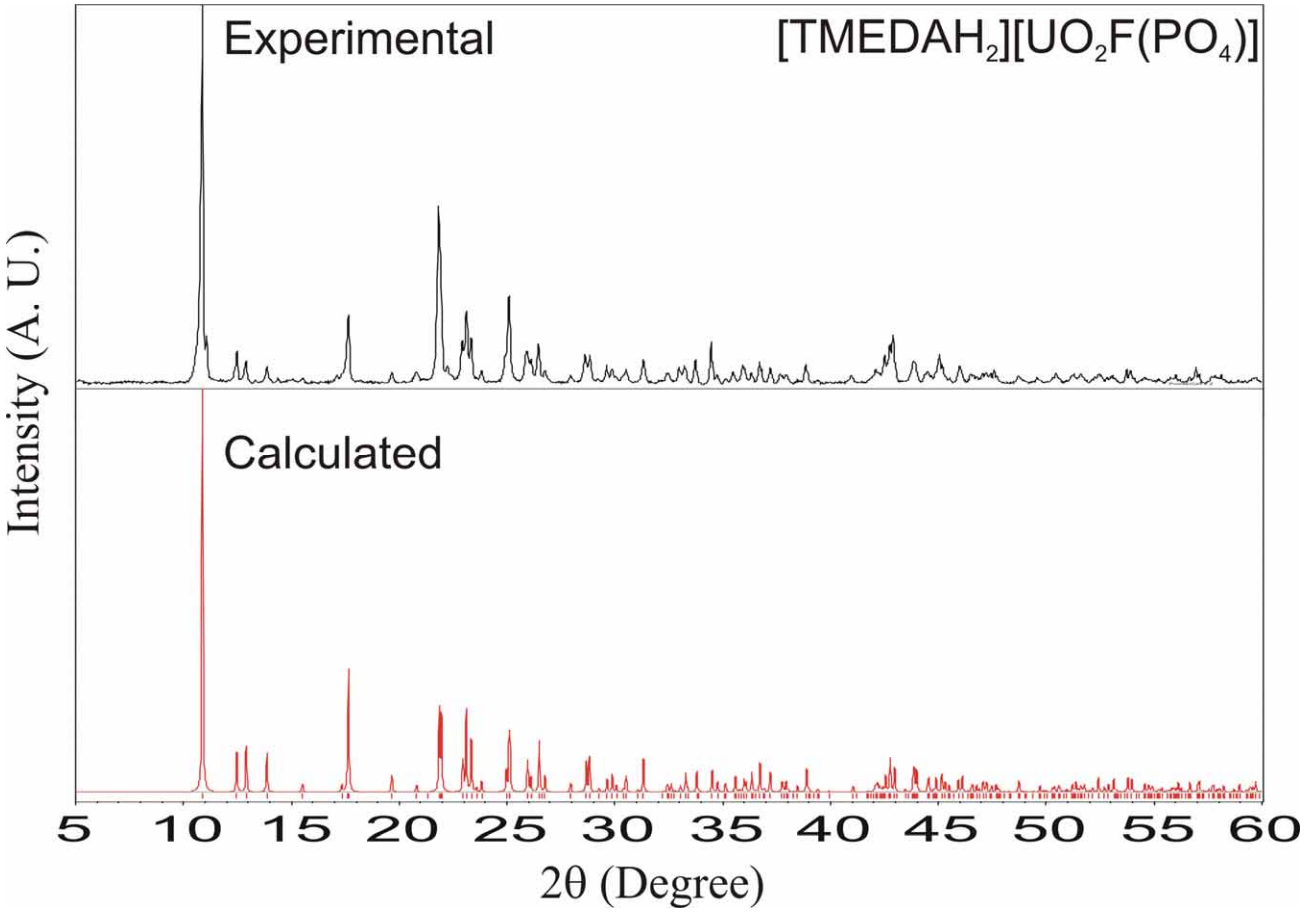
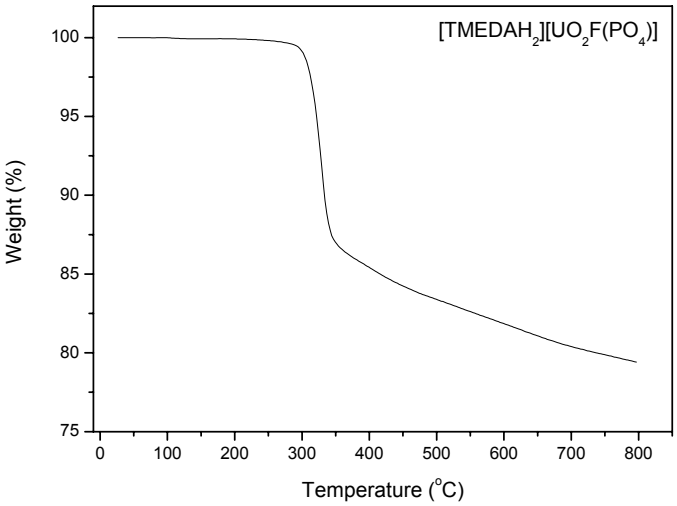
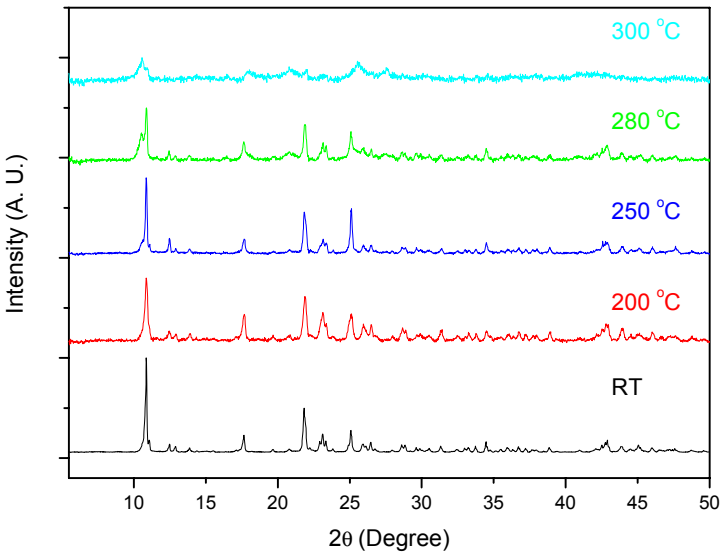


S2. Thermogravimetric analysis diagram for $[(CH_3)_2NH(CH_2)_2NH(CH_3)_2][UO_2F(PO_4)]$





S3. IR and Raman vibrations (cm^{-1}) for $[(CH_3)_2NH(CH_2)_2NH(CH_3)_2][(UO_2)_2F_2(HPO_4)_2]$

	IR	Raman
δ(U−F)		184
		197
		218
ρ(U−O)		275
ν_s(U−F)	409	455
	430	
	447	
	464	
ν_s(U=O)	851	841
ν_{as}(U=O)	885	916
	906	
δ(C−C−N)	479	
ν_{as}(C−N)	1039	1047
ν(P−O)	1039	1058
δ(P−OH)	2550	2550
	2610	
	2687	
δ(CH_2)	791	1453
	1348	1471
	1460	1487
ν(CH_2)	2919	2971
	2953	
δ(CH_3)	993	1006
ν_s(CH_3)	2979	2984
ν_{as}(CH_3)	3022	3008
	2048	3038
		3051
ν(N−H)	3325	3356