

Assessment of K-struvite precipitation as a means of nutrient recovery from source separated human urine

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Table S1. Recipe of synthetic human urine used in this study [1]

Reagent	g L ⁻¹	mM
CaCl ₂ .2H ₂ O	0.65	4.4
MgCl ₂ .6H ₂ O	0.65	3.2
NaCl	4.60	78.7
Na ₂ SO ₄	2.30	16.2
Na ₃ -citrate.2H ₂ O	0.65	2.6
Na ₂ -(COO) ₂	0.02	0.15
KH ₂ PO ₄	1.41	10.32
KCl	1.6	21.5
NH ₄ Cl	0.2	3.71
C ₄ H ₇ N ₃ O(ceratinine)	1.10	9.7

Table S2. Effect of duration on K-struvite precipitation performance

pH	Unit	Initial			Final		
		K	P	Mg	K	P	Mg
9.02 ^a	mM	250	250	250	210	1.7	0.2
	mg/L	9774	7750	6076	8210	53	5
9.01 ^b	mM	250	250	250	216	2.1	0.6
	mg/L	9774	7750	6076	8469	65	15

Durations of ^a7-day and ^b1-month

Table S3. Effect of temperature on K-struvite precipitation performance

pH	T (°C)	Unit	Initial			Final		
			K	P	Mg	K	P	Mg
9.09	24	mM	333	333	333	184	7	1.5
		mg/L	13020	10323	8094	7217	206	38
9.00	30	mM	333	333	333	188	6	0.5
		mg/L	13020	10323	8094	7361	205	11
9.10	90	mM	333	333	333	184	7	0.4
		mg/L	13020	10323	8094	7213	217	9

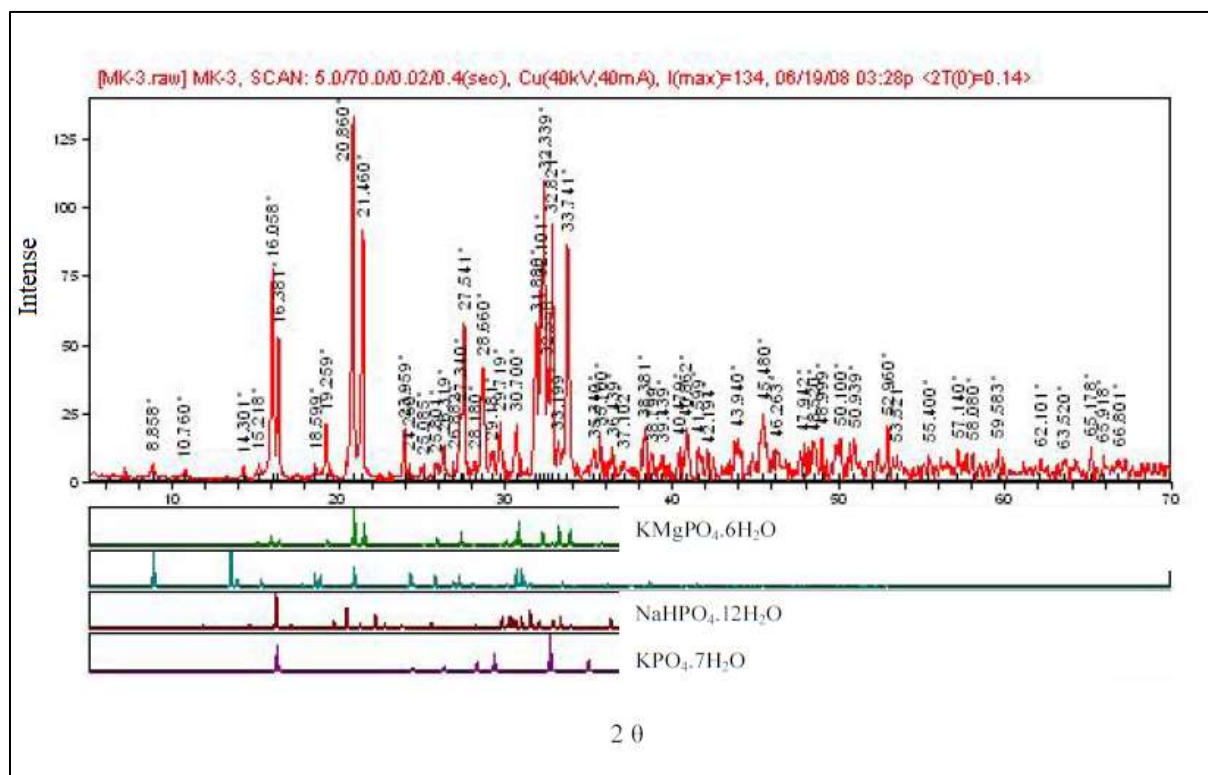


Figure S1. XRD analysis (K/Mg/P: 250/250/250 mM, pH 10.01)

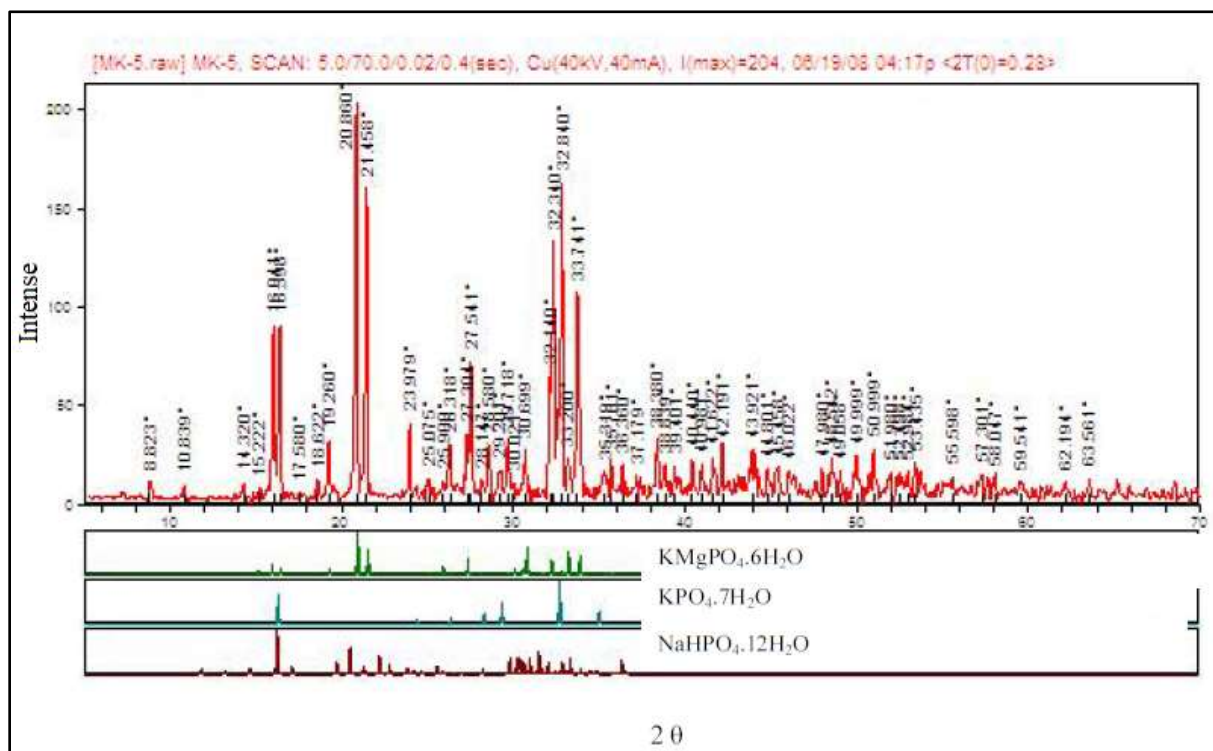


Figure S2. XRD analysis (K/Mg/P: 125/250/250 mM, pH 10.03)

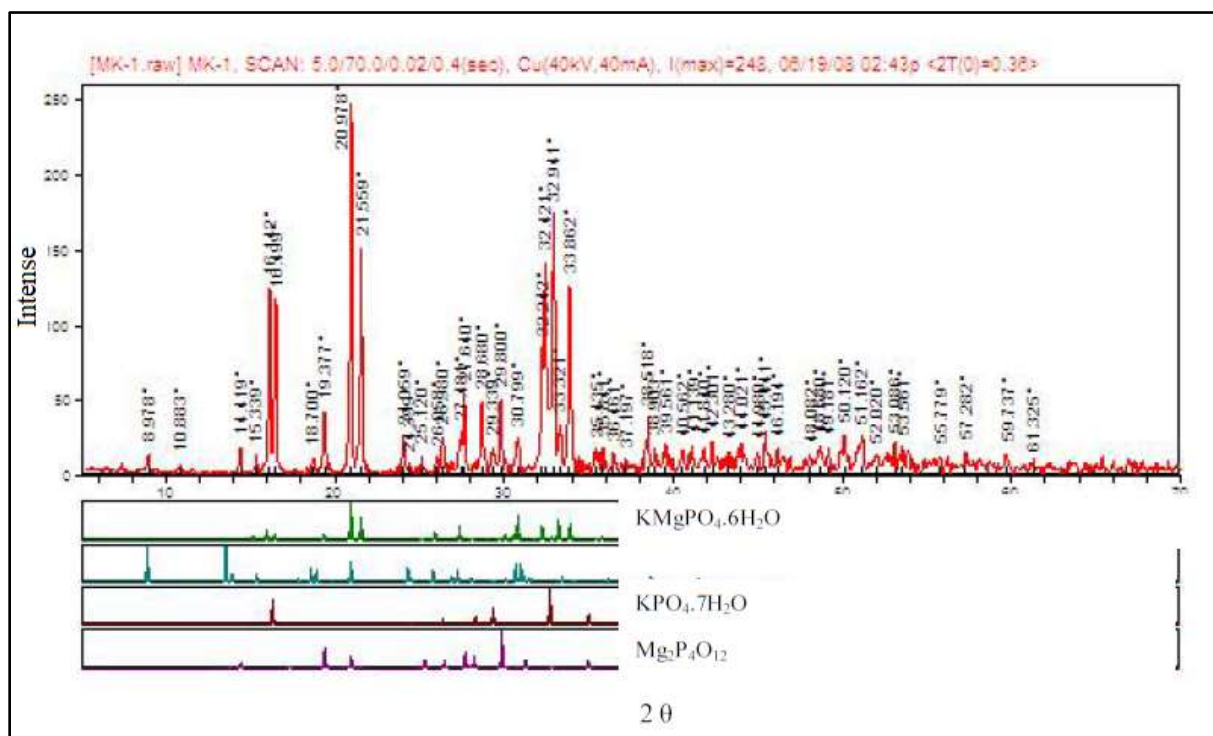


Figure S3. XRD analysis (K/Mg/P: 100/100/100 mM, pH 10.05)

1. Wilsenach, J.A.; Schuurbiers, C.A.H.; van Loosdrecht, M.C.M. Phosphate and potassium recovery from source separated urine through struvite precipitation. *Water Research* **2007**, *41*, 458-466, doi:10.1016/j.watres.2006.10.014.