Supplementary Electronic Information: Alkali silicates and structured mesoporous silicas from biomass power station wastes: the emergence of bio-MCMs

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Table S1: Elemental composition of fly ash and bottom ashes analysed by XRF, all in wt%

Compound	Fly ash	Bottom ash
Na_2O	2.45	0.16
MgO	1.02	2.82
Al_2O_3	0.19	0.76
SiO_2	6.59	63.0
SO_3	3.02	2.74
P_2O_5	18.3	4.37
K_2O	32.0	14.6
CaO	16.8	8.28
TiO_2	0.01	0.06
V_2O_5	0.00	0.00
Cr_2O_3	0.00	0.01
Mn_3O_4	0.05	0.14
Fe_2O_3	0.12	0.50
ZnO	0.08	0.02
SrO	0.03	0.02
Y_2O_3	0.00	0.00
ZrO_2	0.00	0.00
BaO	0.02	0.06
CuO	0.01	0.02
SnO_2		0.09
Cl	19.1	0.05
NiO	0.00	
Br	0.53	
PbO	0.006	
Rb_2O	0.023	
Nb_2O_5		0.038
In2O3		0.031

Table S2: Elemental analysis of two potassium silicate solutions formed from extraction of bottom ashes

Element	Silicate solution 1 Concentration (ppm)	Silicate solution 1 Percentage (wt%)	Silicate solution 2 Concentration (ppm)	Silicate solution 2 Percentage (wt%)
Ag	Nd		nd	
Al	198	0.09	179	0.08
As	1.2	0.00	nd	
Au	Nd		nd	
B	15.0	0.01	14.0	0.01
Ba	16.0	0.01	1.2	0.00
Be	Nd		nd	
Bi	Nd		0.5	0.00
Ca	14.0	0.01	27.0	0.01
Cd	Nd		nd	
Co	Nd		0.3	0.00
Cr	0.1	0.00	0.2	0.00
Cu	Nd		1.0	0.00
Fe	4.0	0.00	5.0	0.00
Hg	Nd		nd	
K	140440	62.0	133780	62.4
La	0.1	0.00	0.1	0.00
Li	Nd		nd	
Mg	13.0	0.01	14.0	0.01
Mn	2.0	0.00	2.0	0.00
Mo	5.0	0.00	5.0	0.00
Na	725	0.32	710	0.33
Ni	Nd		nd	
P	5005	2.21	4651	2.17
Pb	1.1	0.00	1.3	0.00
Pd	2.0	0.00	1.9	0.00
Pt	Nd		nd	
Rb	54.8	0.02	51.8	0.02
S	1578	0.70	1463	0.68
Sb	Nd		nd	
Se	Nd		nd	
Si	78471	34.6	73262	34.2
Sn	0.3	0.00	nd	
Sr	0.4	0.00	0.3	0.00
Te	Nd		nd	
Ti	0.7	0.00	0.7	0.00
Tl	4.2	0.00	0.6	0.00
V	4.9	0.00	4.6	0.00
W	89.5	0.04	85.1	0.04
Zn	Nd		2.0	0.00
Zr	1.4	0.00	1.2	0.00

Electronic Supplementary Material (ESI) for Green Chemistry