

Supporting Information for:

A Cationic Metal-Organic Solid Solution based
on Co(II) and Zn(II) for Chromate Trapping

*Honghan Fei, Cari S. Han, Jeremy C. Robins and Scott R. J. Oliver**

University of California, Santa Cruz, Department of Chemistry and Biochemistry,
1156 High Street, Santa Cruz, California 95064

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CORRESPONDING AUTHOR FOOTNOTE: soliver@ucsc.edu

Table S1. ICP-OMS data of SLUG-35 digested in 1M HCl

Sample Name	Element, Wavelength (nm)	Corrected Intensity (a.u.)	Corrected Standard Deviation (a.u.)	Conc. (ppm)	Average Conc. (ppm)
Co-SLUG-35	Co, 228.616	45299.93	0.97	10.42	10.40
	Co, 238.892	282104.12	1.13	10.36	
	Co, 230.786	33068.90	1.11	10.41	
	Zn, 202.548	124.21	3.02	0.02	0.03
	Zn, 206.200	137.81	3.03	0.04	
	Zn, 213.857	614.53	3.60	0.04	
Zn _{0.25} Co _{0.75} -SLUG-35	Co, 228.616	35742.68	1.56	8.22	8.23
	Co, 238.892	224001.85	0.83	8.23	
	Co, 230.786	26158.712	1.55	8.24	
	Zn, 202.548	14144.15	1.74	3.31	3.32
	Zn, 206.200	10157.98	1.57	3.30	
	Zn, 213.857	46218.84	1.72	3.36	
Zn _{0.5} Co _{0.5} -SLUG-35	Co, 228.616	25555.39	0.95	5.88	5.88
	Co, 238.892	160435.48	0.94	5.89	
	Co, 230.786	18664.65	0.79	5.88	
	Zn, 202.548	19659.14	1.25	4.60	4.61
	Zn, 206.200	14143.16	1.33	4.59	
	Zn, 213.857	63724.60	1.10	4.63	
Zn _{0.75} Co _{0.25} -SLUG-35	Co, 228.616	12483.33	2.60	2.87	2.87
	Co, 238.892	78327.65	2.96	2.87	
	Co, 230.786	9136.61	2.69	2.87	
	Zn, 202.548	38841.31	2.41	9.08	9.10
	Zn, 206.200	28066.45	2.68	9.12	
	Zn, 213.857	125120.56	2.93	9.10	
Zn-SLUG-35	Co, 228.616	108.06	1.99	0.02	0.02
	Co, 238.892	720.99	0.89	0.02	
	Co, 230.786	74.14	4.08	0.02	
	Zn, 202.548	49681.12	1.66	11.62	11.64
	Zn, 206.200	35893.05	1.63	11.66	
	Zn, 213.857	160082.82	1.82	11.65	

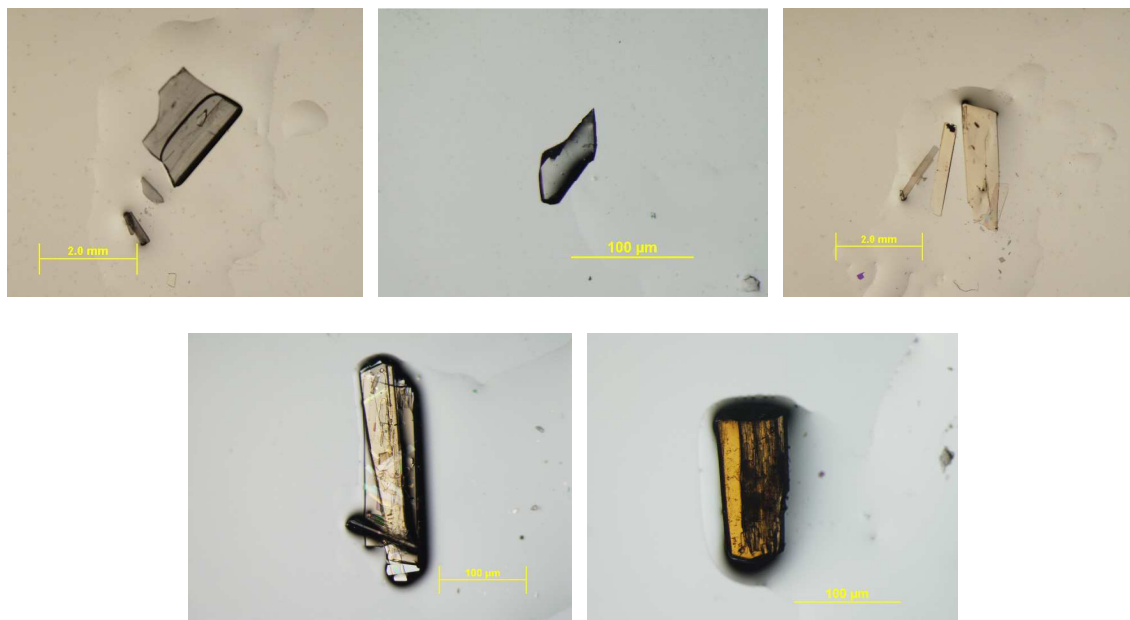


Figure S1. Optical micrographs of as-synthesized Zn-SLUG-35 (top left), Zn_{0.75}Co_{0.25}-SLUG-35 (top center), Zn_{0.5}Co_{0.5}-SLUG-35 (top right), Zn_{0.25}Co_{0.75}-SLUG-35 (bottom left) and Co-SLUG-35 (bottom right).

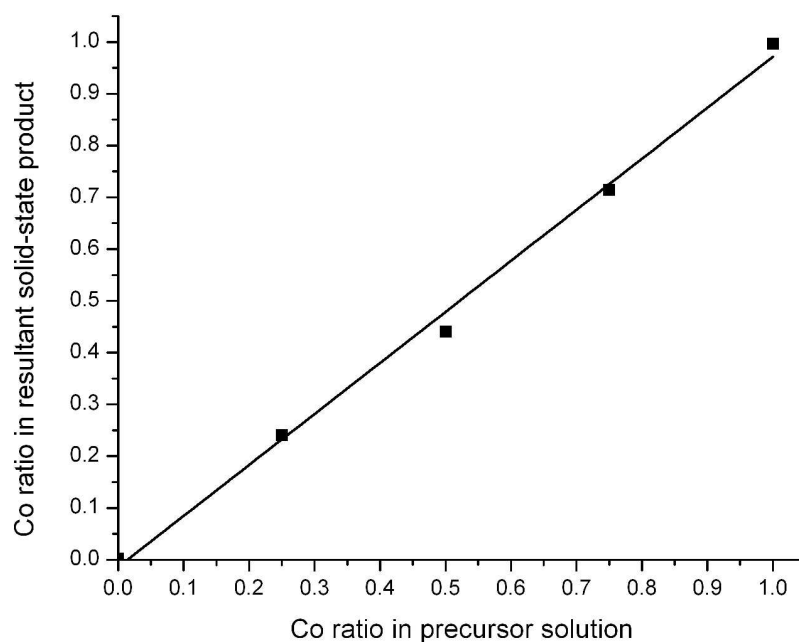


Figure S2. Ratio of Co:Zn in the precursor solution and that of the resultant SLUG-35 solid-state products.

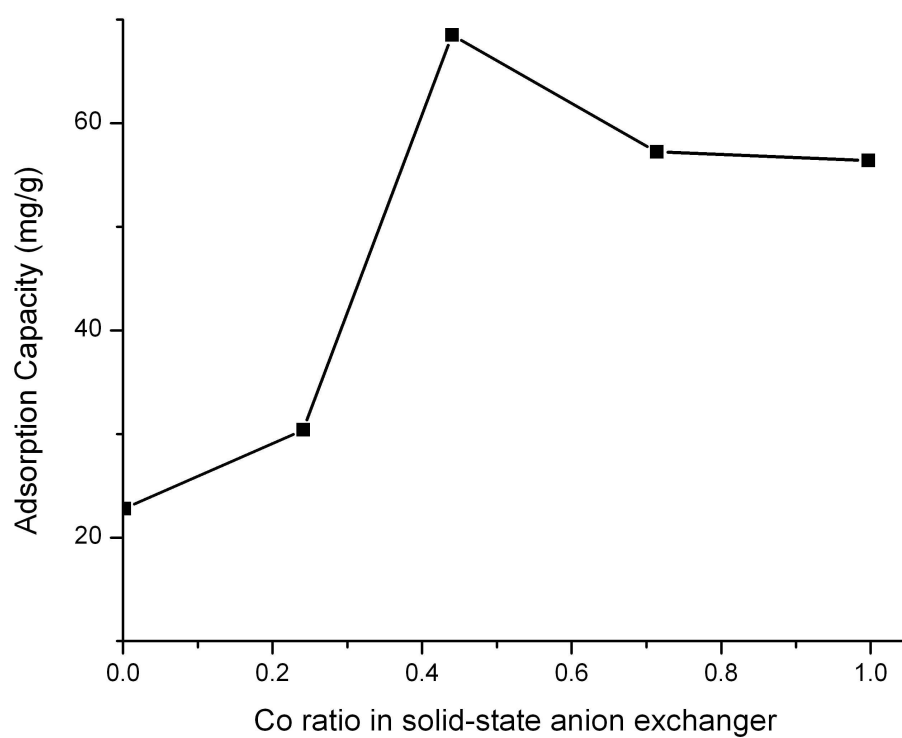


Figure S3. Anion exchange capacity vs. Co:Zn ratio in SLUG-35.

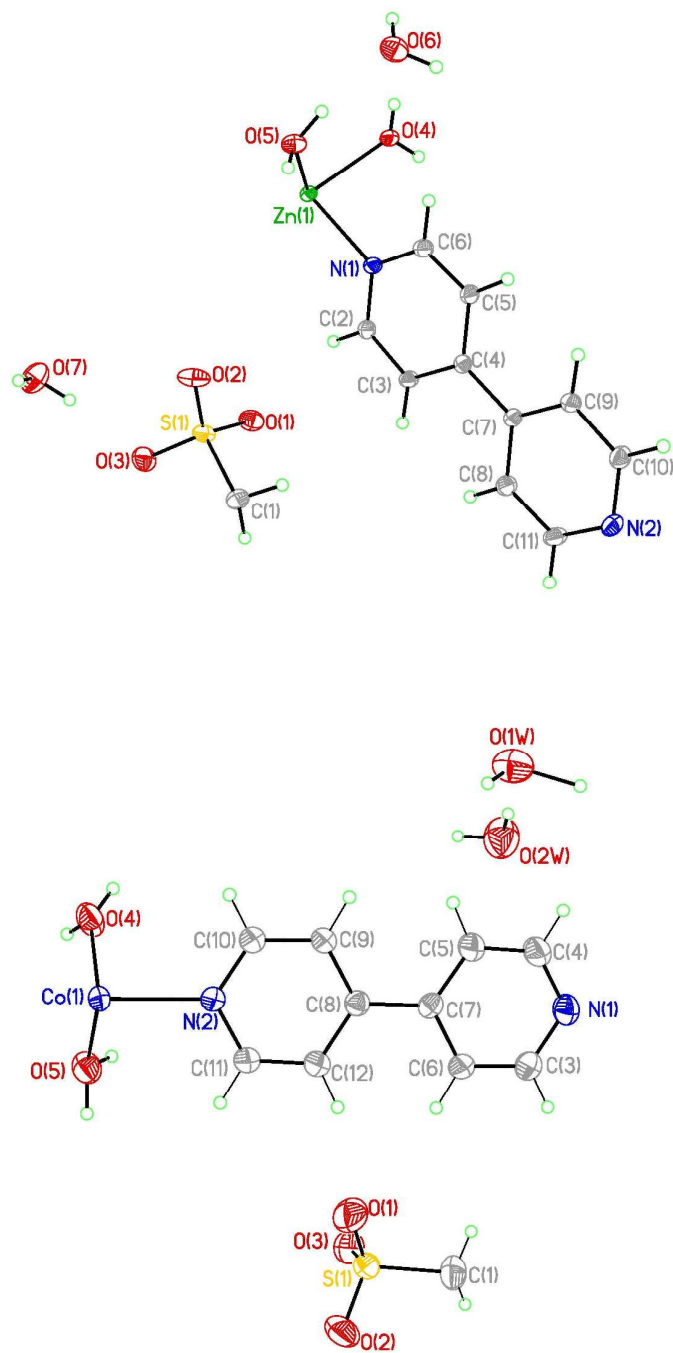


Figure S4. Oak Ridge thermal ellipsoid plot and atomic labeling scheme of Zn-SLUG-35 (top) and Co-SLUG-35 (bottom). Thermal ellipsoids are shown at 50 % probability.

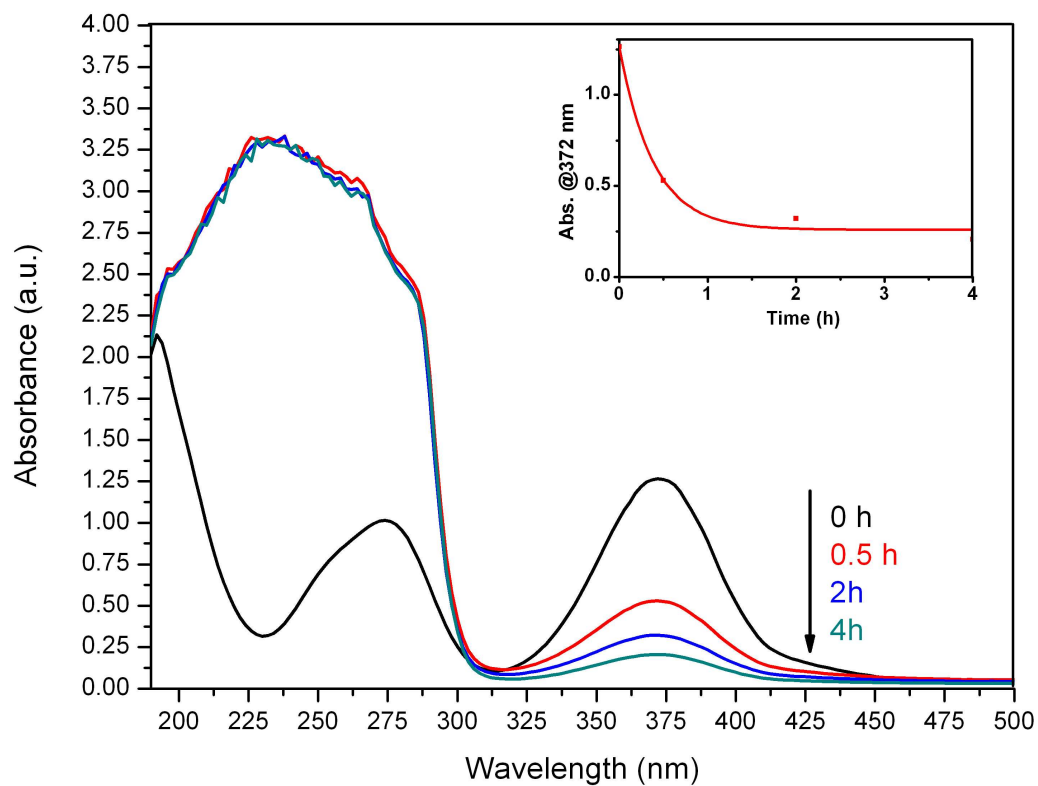


Figure S5. UV-Vis absorption spectra of the chromate exchange solution (10 ml, 2.72 mg K_2CrO_4 and 0.02 g $\text{Zn}_{0.5}\text{Co}_{0.5}\text{-SLUG-35}$) at various time intervals as shown. Inset: relative intensity of the 372 nm maximum versus time.