

Supplementary Information

Induced application of biological waste *Escherichia coli* functionalized with amine-based polymer for CO₂ capture

Vishwanath Hiremath,^{a,†} Soonchul Kwon,^{b,†} Soonha Hwang,^a Min Cho,^{c,*} Jeong Gil Seo ^{a,*}

Table S1. Comparison of different samples for CO₂ sorption.

Adsorbent	Ads. Temp (°C) ^a	CO ₂ capacity (mmol/g)	Amine eff. (molCO ₂ mol ⁻¹ N) ^c	Ref
DMAP-SBA-15	60	0.05	0.03	1
HNTs-NH ₂	25	0.13	-	2
MAP-SBA-15	60	0.25	0.13	1
AEAPS-SBA-15	60	0.26	0.10	1
cl-pyr-MCM-48	25	0.30	0.20	3
cl-PEI-MCM-48	25	0.40	0.08	3
Davison 62-NH ₂	27	0.41	0.32	4
DT-HMS	75	0.45	0.10	5
EDA-SBA-15	22	0.57	0.22	6
AEAPS-SBA-16	60	0.59	0.23	7
SBA-15/G0	20	0.98	0.41	8
<i>PEI/E. coli</i>	25	0.40	0.93	Current work
<i>PEI/E. coli</i>	75	0.31	0.69	Current work

References:

- 1 N. Hiyoshi, K. Yogo and T. Yashima, *Microporous Mesoporous Mater.*, 2005, **84**, 357–365.
- 2 S. Jana, S. Das, C. Ghosh, A. Maity and M. Pradhan, *Sci. Rep.*, 2015, **5**, 1–8.
- 3 V. Zelenak, D. Halamova, L. Gaberova, E. Bloch and P. Llewellyn, *Microporous Mesoporous Mater.*, 2008, **116**, 358–364.
- 4 O. Leal, C. Bol??var, C. Ovalles, J. J. Garc??a and Y. Espidel, *Inorganica Chim. Acta*, 1995,

240, 183–189.

- 5 G. P. Knowles, S. W. Delaney and A. L. Chaffee, *Ind. Eng. Chem. Res.*, 2006, **45**, 2626–2633.
- 6 F. Zheng, D. N. Tran, B. J. Busche, G. E. Fryxell, R. S. Addleman, T. S. Zemanian and C. L. Aardahl, *Ind. Eng. Chem. Res.*, 2005, **44**, 3099–3105.
- 7 J. Wei, J. Shi, H. Pan, W. Zhao, Q. Ye and Y. Shi, *Microporous Mesoporous Mater.*, 2008, **116**, 394–399.
- 8 Z. Liang, B. Fadhel, C. J. Schneider and A. L. Chaffee, *Microporous Mesoporous Mater.*, 2008, **111**, 536–543.