

Abstract Submitted  
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**Adsorption of methane on Zn(bdc)(ted)0.5 microporous metal-organic framework** VAIVA KRUNGLEVICIUTE, Southern Illinois University Carbondale, SANHITA PRAMANIK, Rutgers, The State University of New Jersey, ALDO MIGONE, Southern Illinois University Carbondale, JING LI, Rutgers, The State University of New Jersey — Zn(bdc)(ted)0.5 is metal-organic framework crystallized in a tetragonal space group with a 3D porous structure containing intersecting channels of two different sizes. The larger channels are parallel to the c axis and have a cross section  $7.5 \times 7.5 \text{ \AA}$ . The smaller channels are along both the a- and b-axes and have a cross section of  $4.8 \times 3.2 \text{ \AA}$ . We measured methane adsorption isotherms at several different temperatures between 82 and 102 K. We calculated the effective specific surface area, isosteric heat and binding energy values. Two distinct substeps were observed in the isotherms corresponding to two different adsorption sites. The origin of the substeps will be discussed.

Vaiva Krungleviciute

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