Abstract Submitted
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Ethane Adsorption on Open Carbon Nanohorns[1] CHRIS MANDRELL, BRICE RUSSELL, ALDO MIGONE, Southern Illinois University - Carbondale — We have measured adsorption isotherms at five different temperatures in the range between 120 K and 160 K, for ethane adsorbed on a 0.1692 g sample of chemically-opened carbon nanohorns. Two clear substeps are visible in the adsorption data which correspond to two groups of sites: stronger binding sites (lower pressure substep) and weaker binding sites (higher pressure substep). The space at the interior of the individual nanohorns is accessible to sorbates in these chemically opened nanohorns. Consequently, higher loadings are obtained on these samples when compared to those measured on unopened (as-produced) nanohorns. Results for the kinetics of adsorption, the effective specific surface area, and the isosteric heat of adsorption as a function of sorbent loading will be presented and compared to results from other gases adsorbed on nanohorns.

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