

Abstract Submitted  
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**Amine-sulfonyl hydrogen bonding forms  $\beta$ -strand mimics** JUSTIN BARONE, KATHERINE HARVEY, Virginia Tech — Ethyl vinyl sulfone (EVS)-substituted amino acids have the ability to form  $\beta$ -strand mimics that can then continue to aggregate into larger structures such as sheets. The  $\beta$ -strand forms from a sulfonyl-amine hydrogen bond. Here, we show that EVS-substituted lysine forms  $\beta$ -structures similar to protein  $\beta$ -structures as measured with x-ray diffraction. The  $\beta$ -structures can aggregate into macroscopic sheets with the ability to roll under the influence of the amino acid chirality. Microtubules form from sheets rolling left (L-lysine) or right (D-lysine).

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