



Figure 1: The distribution of angles w.r.t. xy plane between alkane chain tail centroids and nearest neighbor centroids for equilibrated parallel displaced (a) and sandwiched (b) configurations show distinct peaks at $\pm 60^\circ$ and $\pm 60^\circ$ respectively. (c) Integrated 2D WAXS data between $q_r=1$ and $q_r=1.42$ shows distinct peaks at with maxima at $\pm 37^\circ$