Supporting Information:

A scalable route to nanoporous large-area atomically-thin graphene membranes by roll-to-roll chemical vapor deposition and polymer support casting

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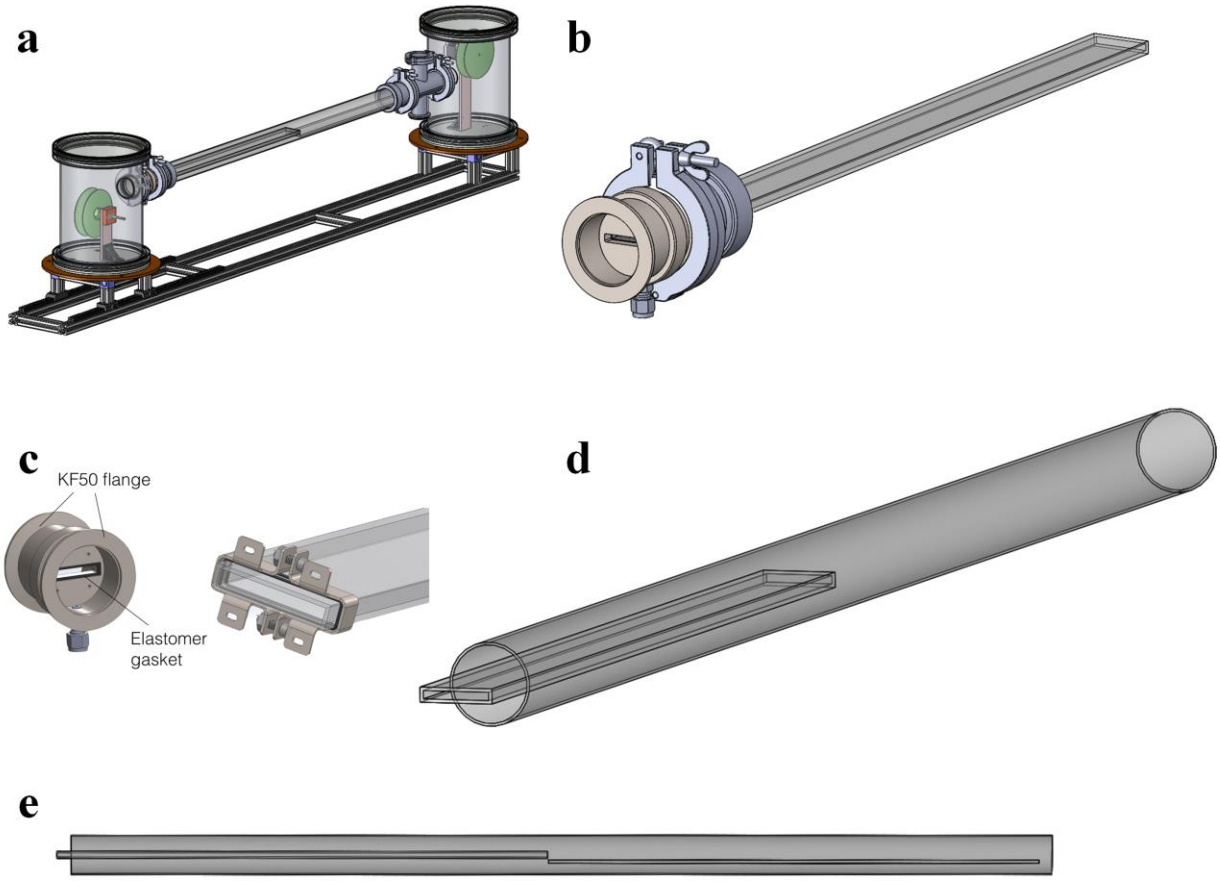

Figure S1 a) Roll-to-roll CVD reactor on rails. b,c) Custom built KF flange seals rectangular quartz sleeve such that the annealing gases from input chamber flow on the inside of the quartz sleeve (annealing zone). The KF flange also has the gas inlet for the growth gases and these flow on the outside of the quartz sleeve as show in c. d) Rectangular quartz sleeve forms the annealing zone within the quartz tube enclosure. e) Annealing zone (quartz sleeve) leads to the growth zone with quartz flat.

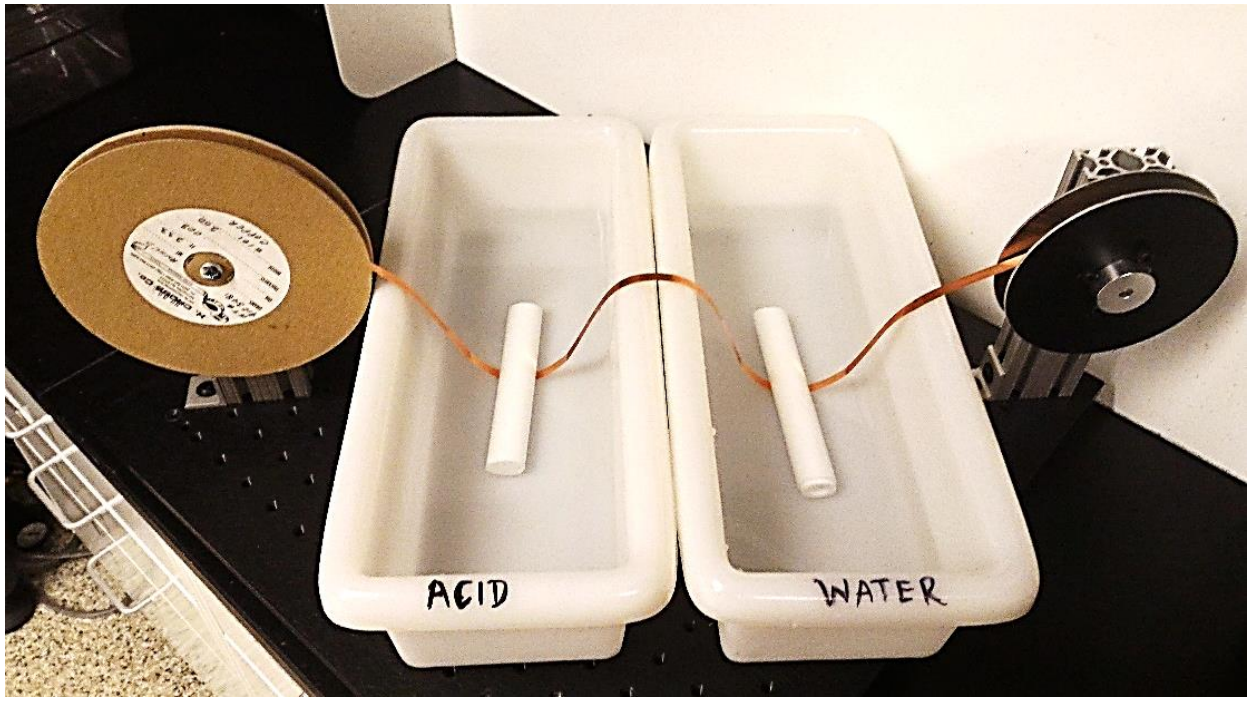

Figure S2 Experimental set-up to clean oxides and contamination from Cu foil with successive dips in an acid bath followed by a water bath.

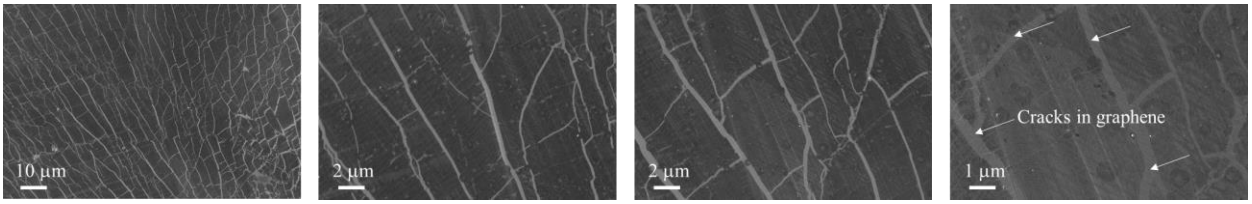

Figure S3. Cracks and discontinuities in CVD graphene on Cu formed when the graphene is on the outer edge of the winding. No cracks are seen when direction of winding is changed and graphene on the inner edge of the winding (see Figure 3g-i).