

Figure S1: (a) Top-view of the membranes synthesized in glycerol with 5 vol.% water and 0.35M NH_4F at 60 V, (b) cross-section of the synthesized membranes. The red arrow indicates the nanotubes while the white arrows highlight the areas with nanoporous nature as is evident from the mode of fracture which reveals the trenches, (c) cross-section of the membrane heated at 800°C-30 mins showing that the wall morphology is maintained and (d) cross-section of membranes heated at 900°C-30 mins showing a comparatively deformed morphology.

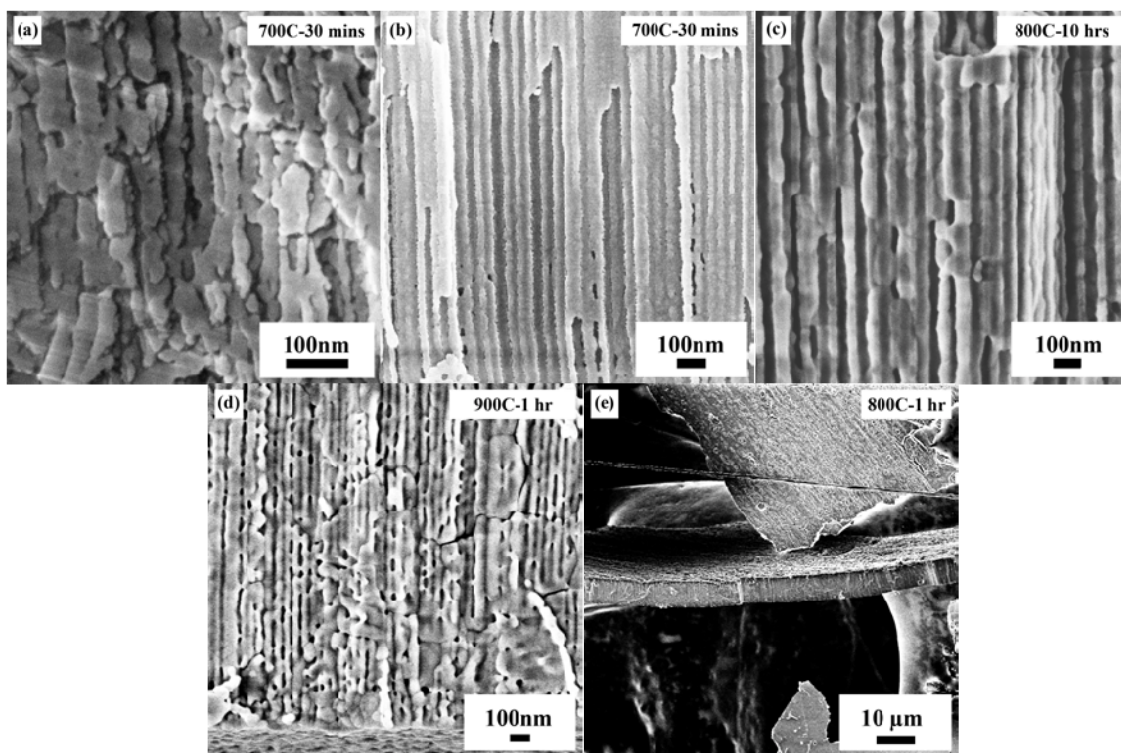


Figure S2: Cross-section SEM images of (a) nanotubular, (b) nanoporous membranes heat treated at 700°C-30 mins, (c) nanoporous membranes heat treated at 800°C-10 hrs, (d) nanoporous membranes heat treated at 900°C-1 hr and (e) membrane heated at 800°C-1 hr (lower magnification).

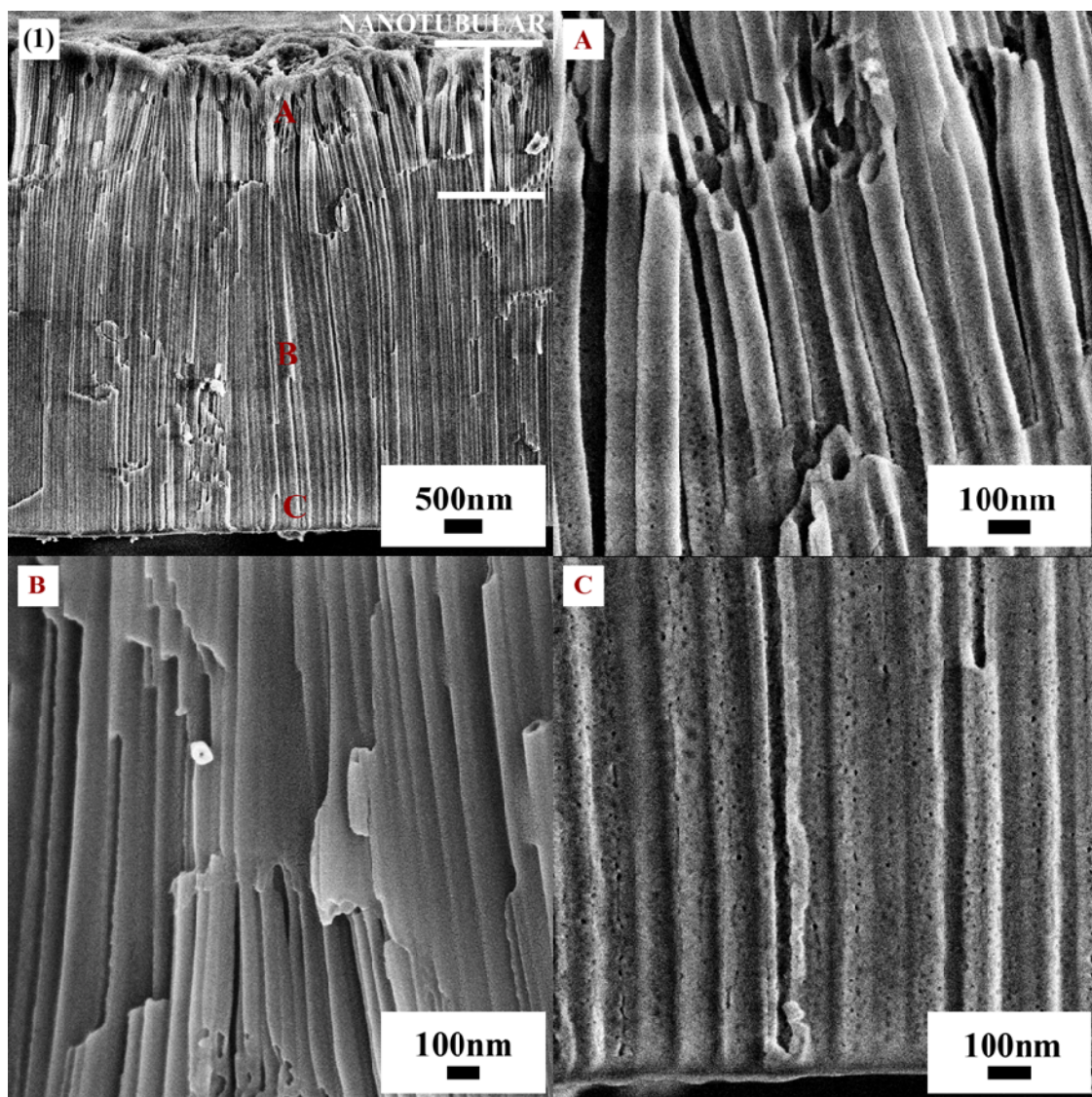


Figure S3: (1) shows the complete cross-section of the ammoniacal solution treated nanoporous membrane. A, B and C are the magnified images of the areas marked in 1 at different depths of the membrane.

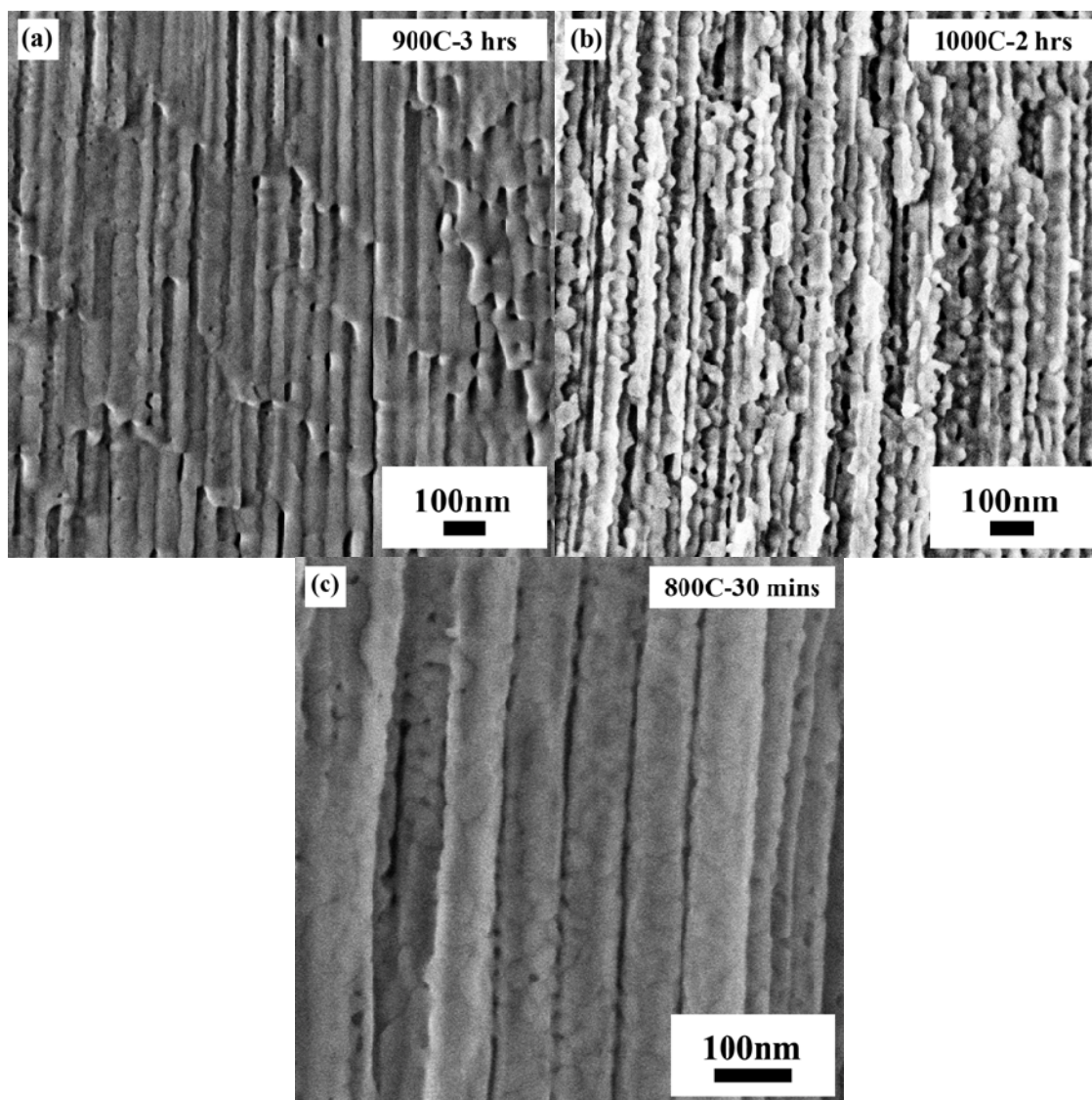


Figure S4: Cross-section images of (a) ammoniacal solution treated nanoporous membrane heated at 900°C-3 hrs, (b) ammoniacal solution treated nanoporous membrane heated at 1000°C-2 hrs, (c) water treated nanoporous membrane heated at 800°C-30 mins.

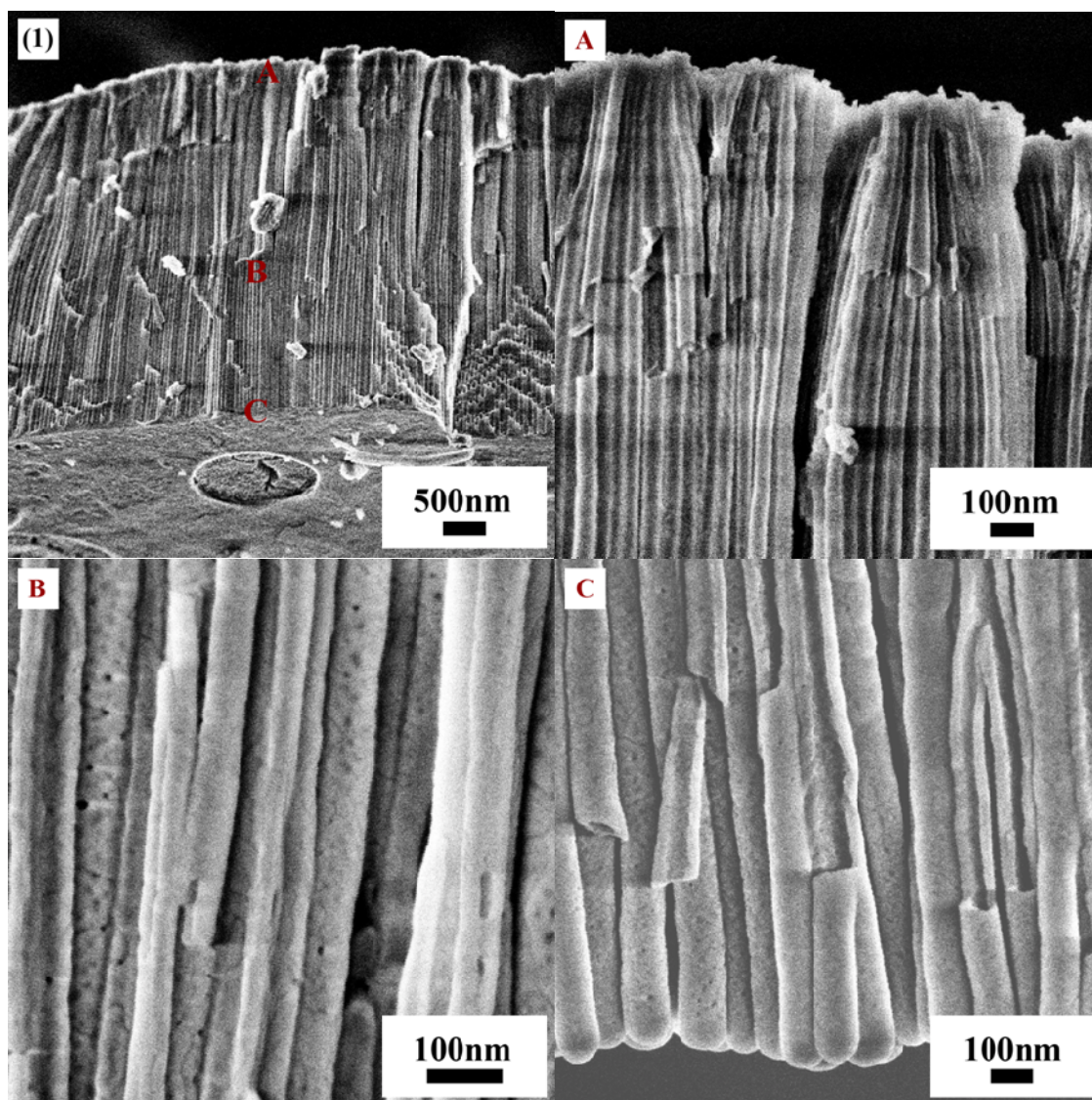


Figure S5: (1) shows the complete cross-section of the ammoniacal solution treated nanoporous membrane heated at 1000°C for 1 hr. A, B and C are the magnified images of the areas marked in 1 at different depths of the membrane.

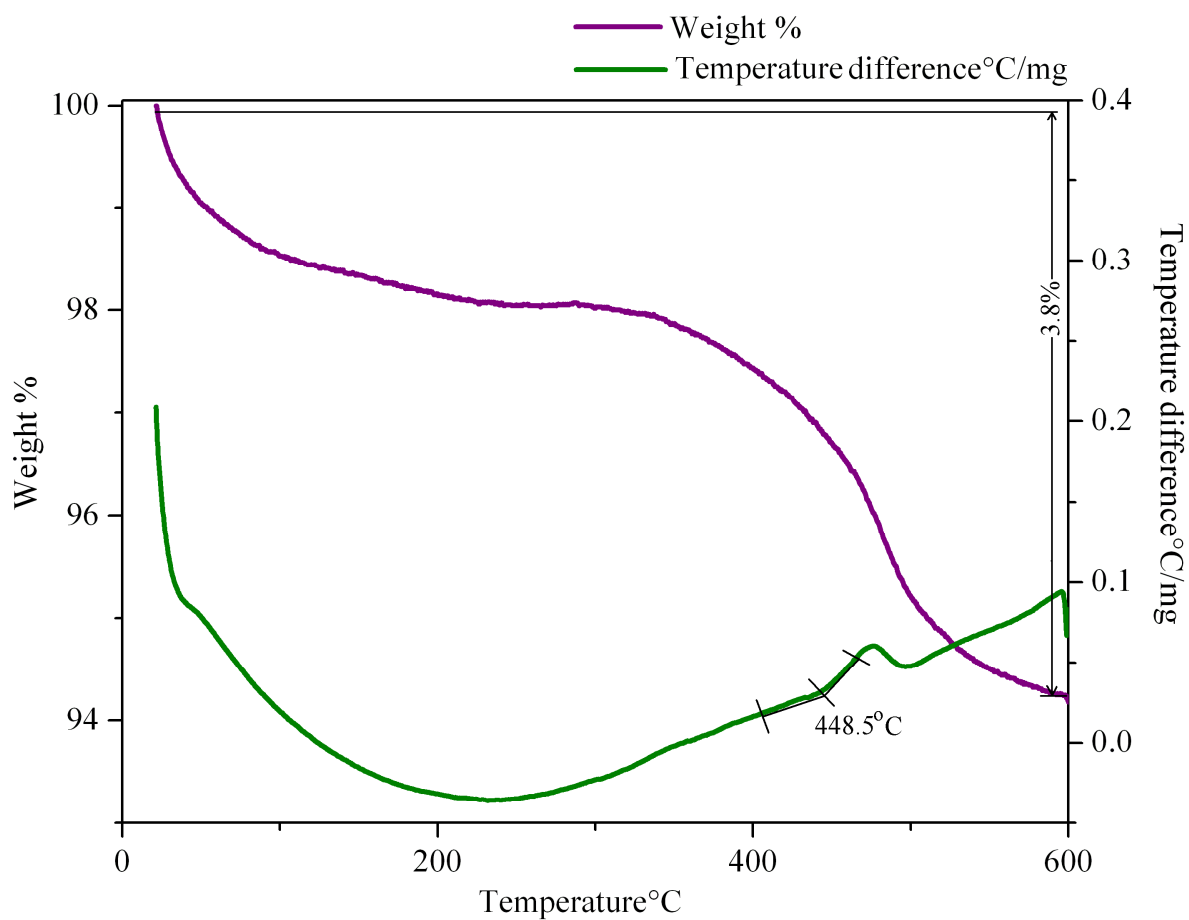


Figure S6: TGA/DTA data of nanotubular membranes synthesized in aqueous medium. The onset of crystallization is at 448.5°C while the total weight loss is 3.8% after heat treatment to 600°C. This shows that the onset temperature of crystallization for the nanotubular membrane is comparable to that of the nanoporous membrane.