## **Supplementary Information**

## **Biomimetic Replication of Butterfly Wing Scale Nanostructure**

## for Radiative cooling and Structural Coloration

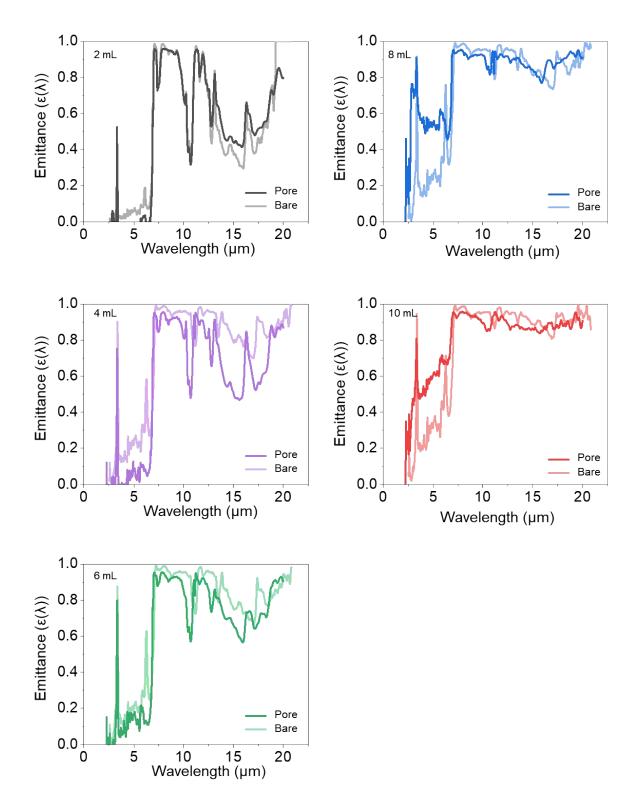
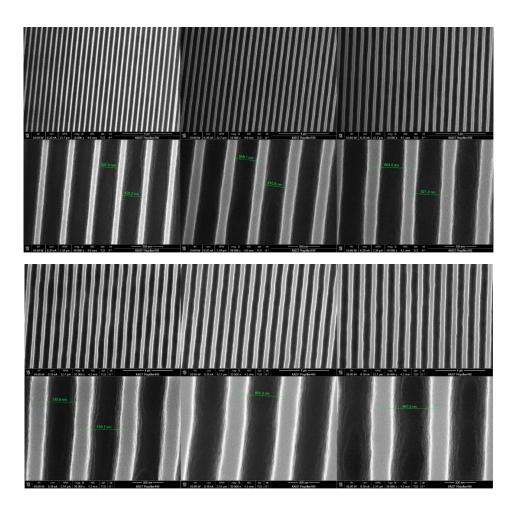
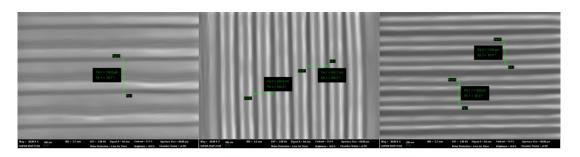


Figure S1. FTIR comparison between porous are pristine PVDF-HFP film of different thickness



**Figure S2. SEM image of the laser interference patterned PR** with the nanograting distance difference from 400 to 900 nm with the interval of 100 nm.



**Figure S3. SEM image of the soft-imprinted PDMS** with the nanograting distance difference of 700, 800 and 900 nm.