

Supplementary information

Supplementary experimental details

The V_2O_5 MPs/PLA and V_2O_5 MPs/chitosan coatings were prepared and subjected to SEM observation using the same procedures as for the V_2O_5 NWs/PLA and V_2O_5 NWs/chitosan coatings, respectively.

The V_2O_5 /polymer coatings of interest were placed in liquid nitrogen. After 1 min, they were cracked and subjected to lyophilization. Prior to the SEM observation, they were stuck on the membrane and carbon coated. The SEM images were collected using a JEOL 7600F electron microscope.

Supplementary results:

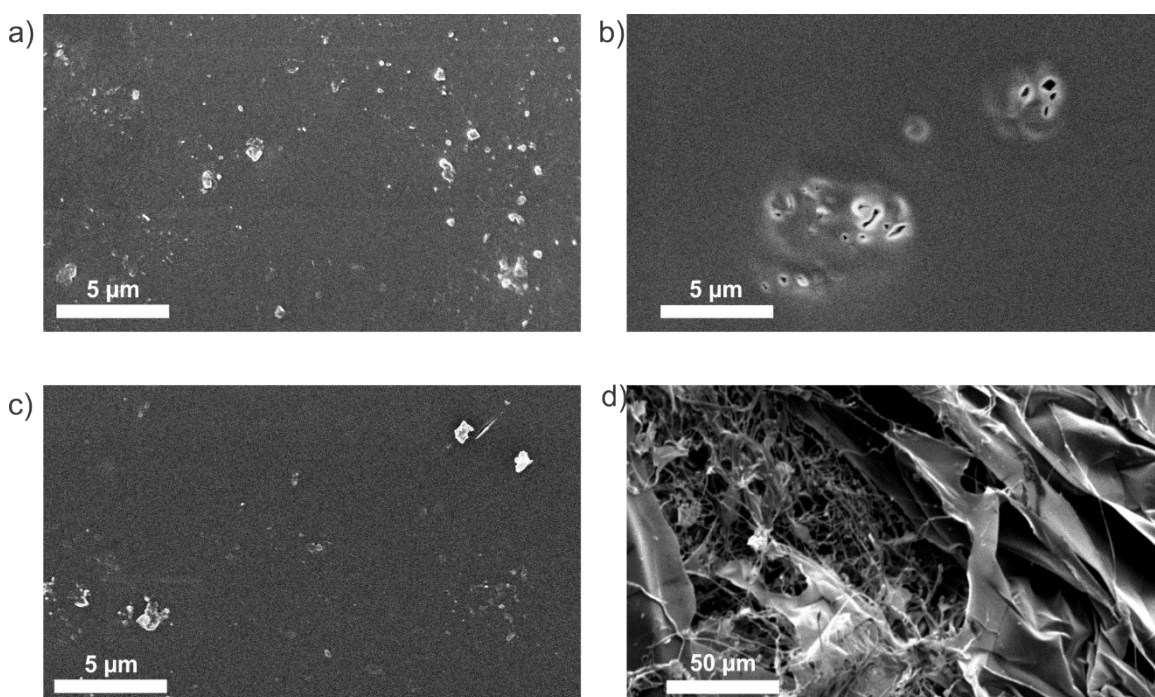


Figure S1: SEM micrographs of the surface of the V_2O_5 MPs/PLA a) before and b) after exposure to PBS; V_2O_5 MPs/Chitosan c) before and d) after exposure to PBS.

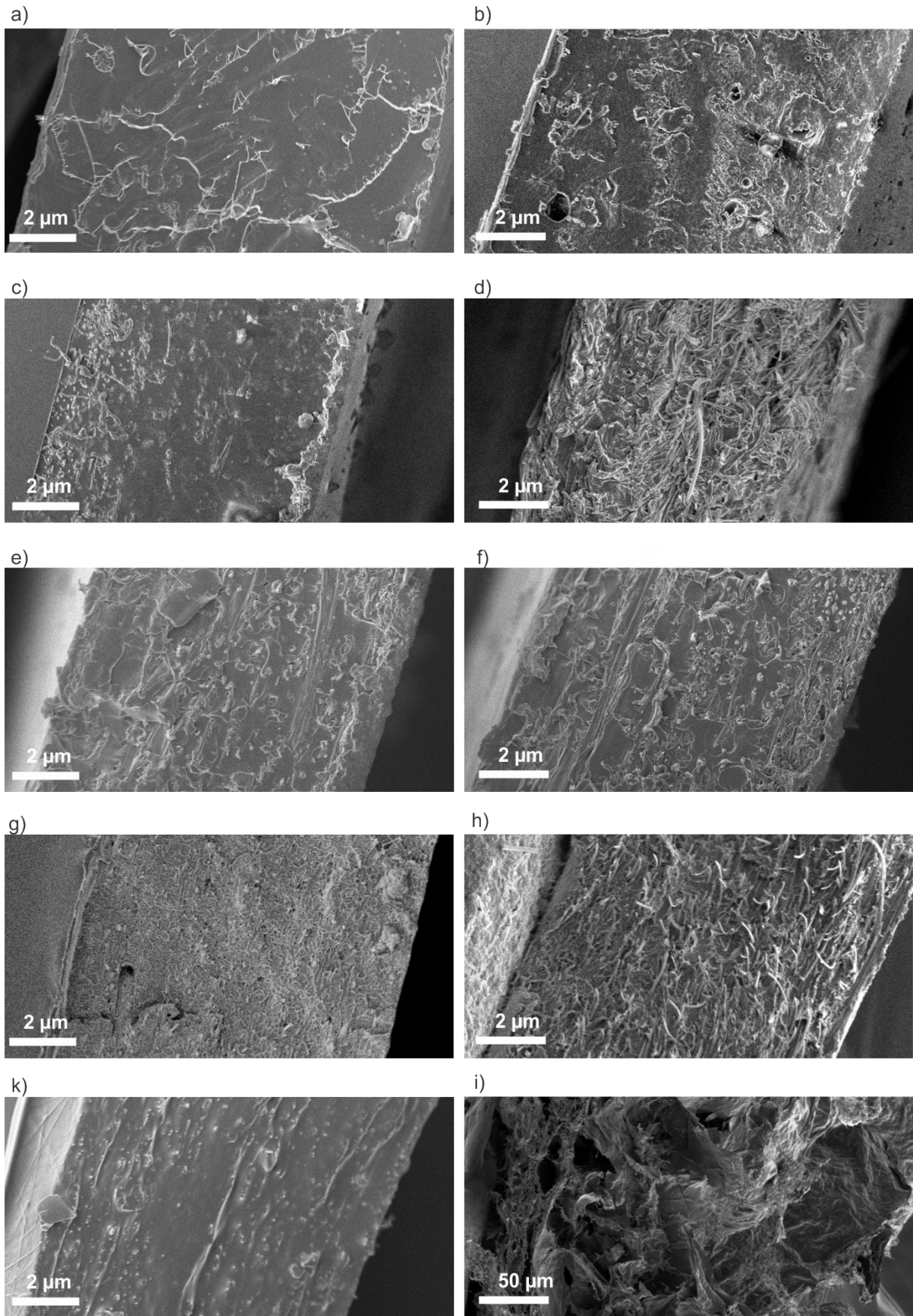


Figure S2: SEM micrographs of breakage of V₂O₅ MPs/PLGA composite a) before and b) after exposure to PBS; breakage of V₂O₅ NWs/PLGA c) before and d) after exposure to PBS; breakage of

V_2O_5 NWs/PLA e) before and f) after exposure to PBS; breakage of V_2O_5 NWs/PS g) before and h) after exposure to PBS; breakage of V_2O_5 NWs/Chitosan k) before and i) after exposure to PBS

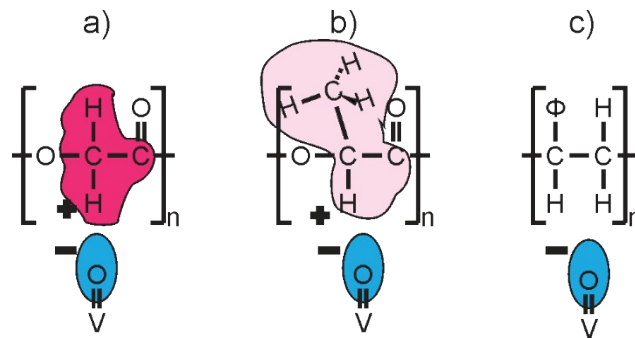


Figure S3: Molecular representation of polar interphase interactions between V_2O_5 NWs and a) PLGA, b) PLA and c) PS.