

### Supplementary Material

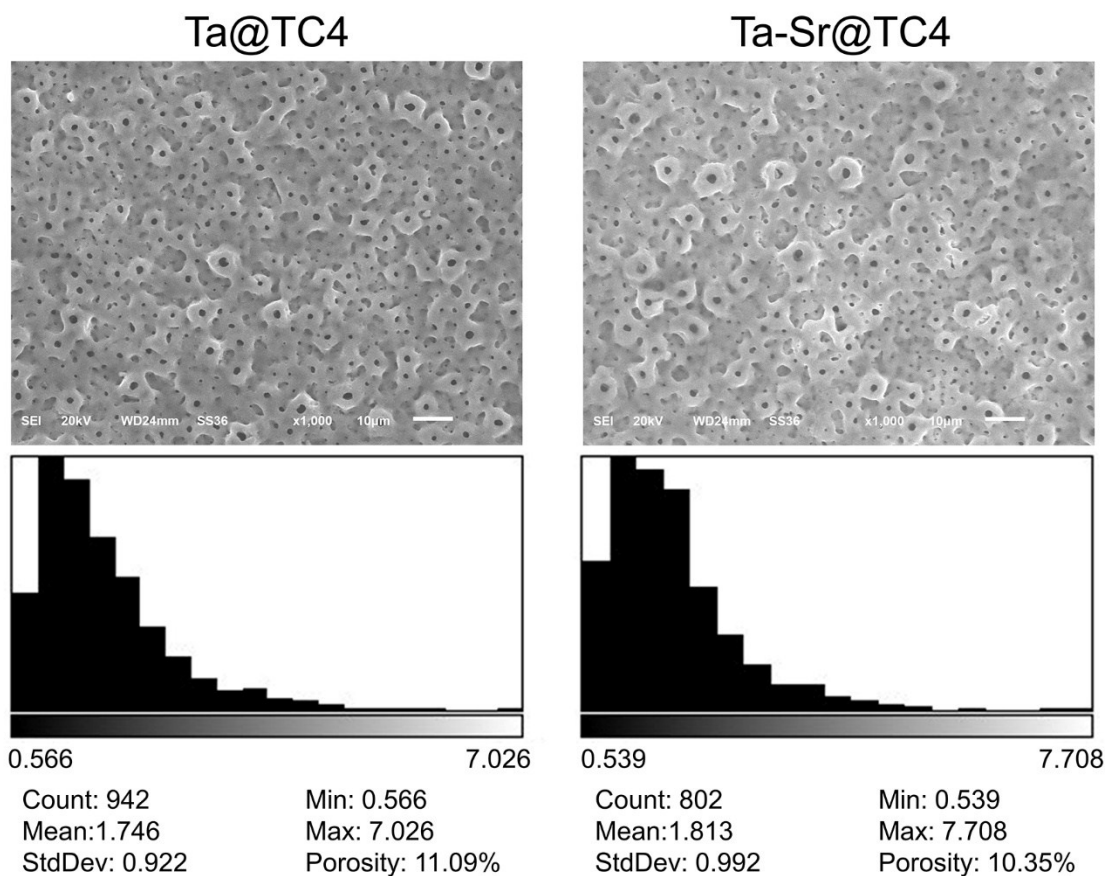


Fig.S1. The results of the porosity and pore size distribution for the Ta@TC4 and Ta-Sr@TC4 coatings.

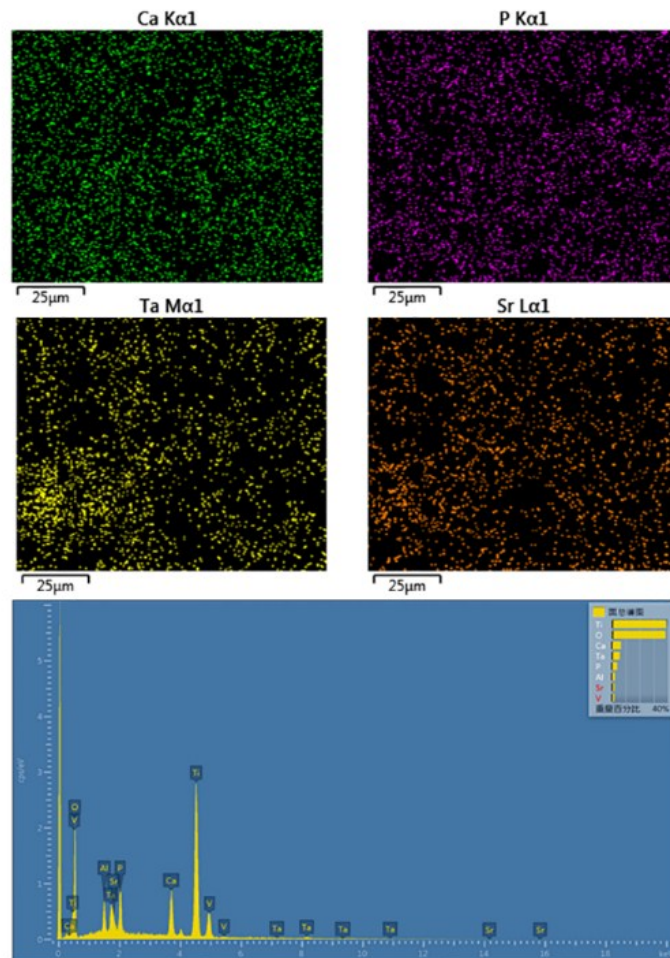


Fig.S2. Surface element distribution mapping and EDS diagram of Ta-Sr@TC4 sample.