

Support Information

# Biofunctionalization of Porous Titanium Oxide through Amino Acid Coupling for Biomaterial Design

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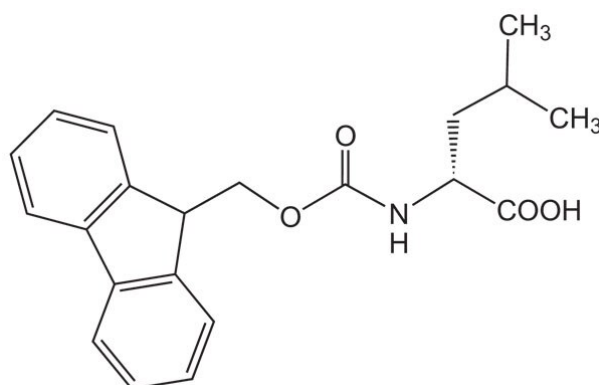
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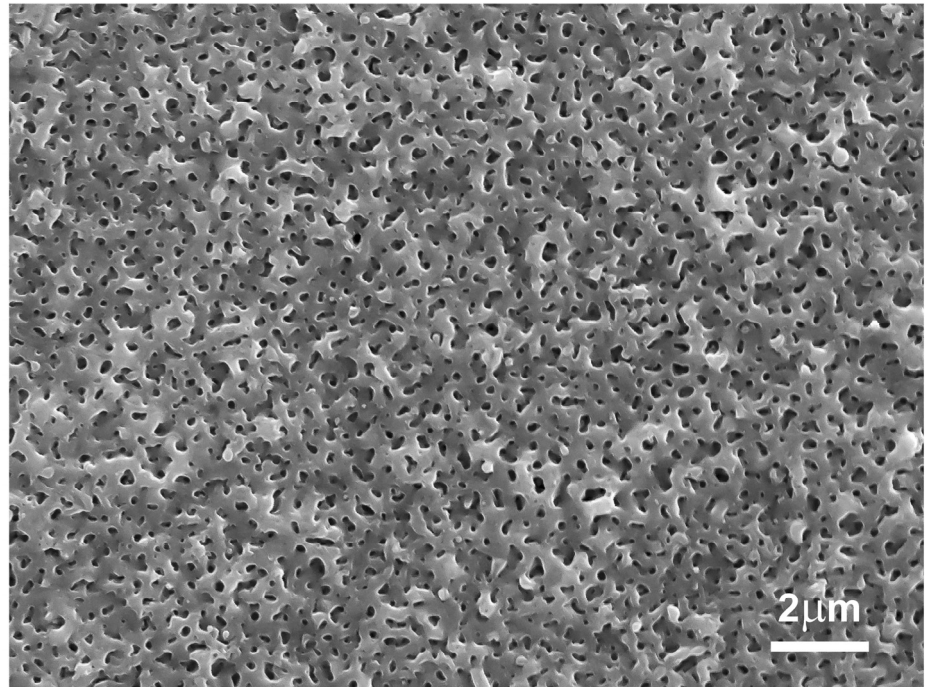
**Keywords:** porous titanium oxide; aminophosphonates; amino acid coupling; Fmoc-Leucine; nanoshaving; AFM; XPS

## S1 – Structural formula of Fmoc-Leucine-OH



**Figure S1.** Structural formula of Fmoc-Leucine-OH.

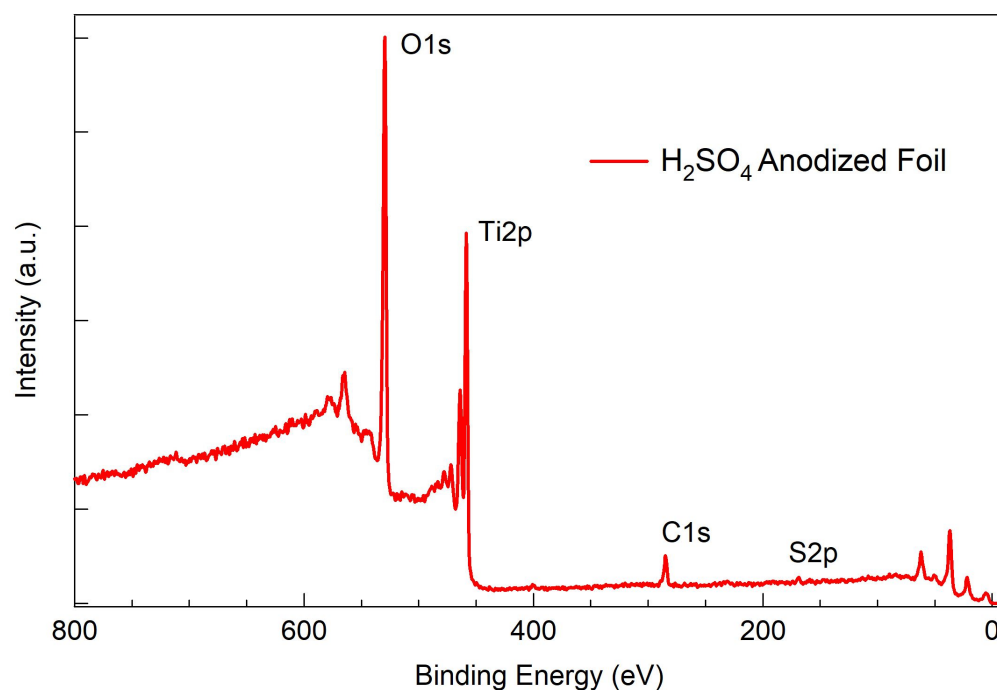
## S2- SEM analysis of anodized TiO<sub>2</sub> substrates



**Figure S2.** SEM image of titanium foil anodized in 1M H<sub>2</sub>SO<sub>4</sub> aqueous solution at 200 V limiting potential.

Figure S2 shows a representative SEM image of anodized TiO<sub>2</sub> substrates. SEM measurements were performed using a LEO1450VP SEM with tungsten filament. Images were acquired using a secondary electron detector. The analysis was carried out in high vacuum conditions, without any metallization of the sample.

### S3 – Porous TiO<sub>2</sub> compositional analysis



**Figure S3.** Survey spectrum of titanium foil anodized in 1M H<sub>2</sub>SO<sub>4</sub> aqueous solution at 200 V limiting potential.

Figure S3 reports a typical XPS survey spectrum of a titanium foil anodized in a 1 M H<sub>2</sub>SO<sub>4</sub> aqueous solution. As expected, the surface chemical composition shows mainly the presence of titanium (at a binding energy of about 458 eV) and oxygen (at a binding energy of about 530 eV). The tiny signal around 168 eV is assignable to sulphur, deriving from sulphur inclusions due to the used electrolyte. Moreover, some adventitious carbon (around 285 eV) is observable.