

## Supplemental Information

Groups	BET surface area (m <sup>2</sup> /g)
Ti6Al4V substrate	0.0379
0.25mg/ml rGO coating	0.0486
0.5mg/ml rGO coating	0.0971
1.0 mg/ml rGO coating	0.1039

Table S1. S BET surface area of Ti6Al4V substrates, 0.25mg/ml rGO Coating, 0.5mg/ml rGO coating and 1.0 mg/ml rGO coating.

Groups	Ra value (μm)
Ti6Al4V substrate	0.77
0.25mg/ml rGO coating	0.65
0.5mg/ml rGO coating	0.59
1.0 mg/ml rGO coating	0.56

Table S2. Roughness of Ti6Al4V substrates, 0.25mg/ml rGO coating, 0.5mg/ml rGO coating and 1.0 mg/ml rGO coating.

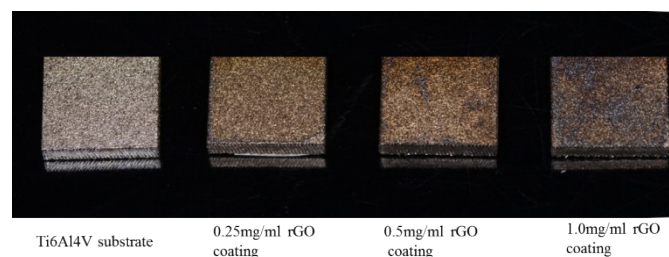


Figure S1. Macroscopic photos of Ti alloy and rGO coated Ti alloy.

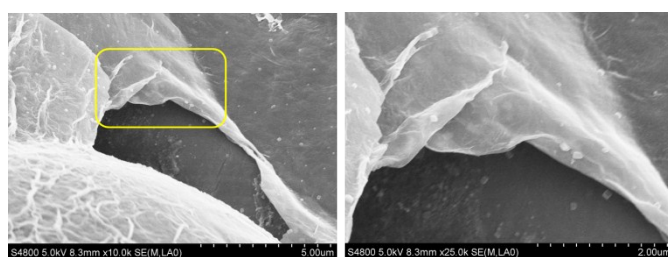


Figure S2. SEM images of the rGO coating thickness.  
Yellow rectangle box displayed the rGO coating.

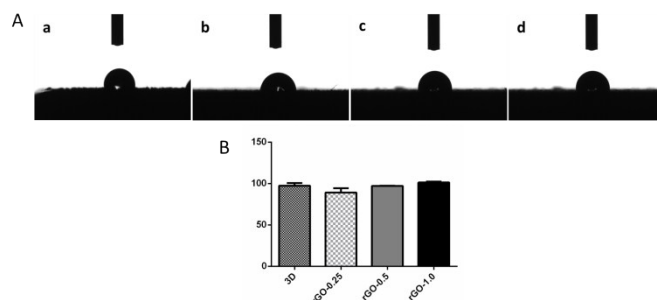


Figure S3. Hydrophilicity of Ti6Al4V substrates before and after rGO Coating. A. Ti6Al4V substrates(a) 0.25mg/ml rGO coating (b) 0.5mg/ml rGO coating (c) and 1.0 mg/ml rGO coating (d). B. Contact angles of different groups.