

# Supporting Information

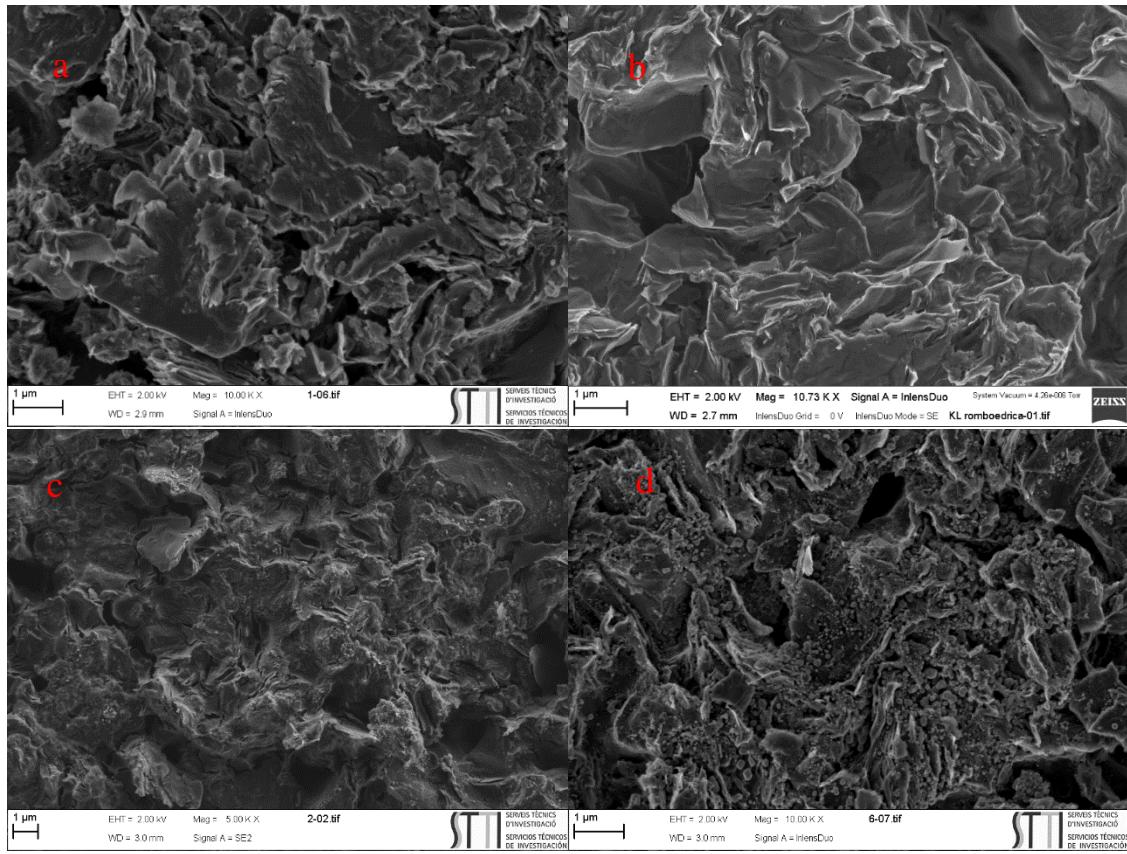
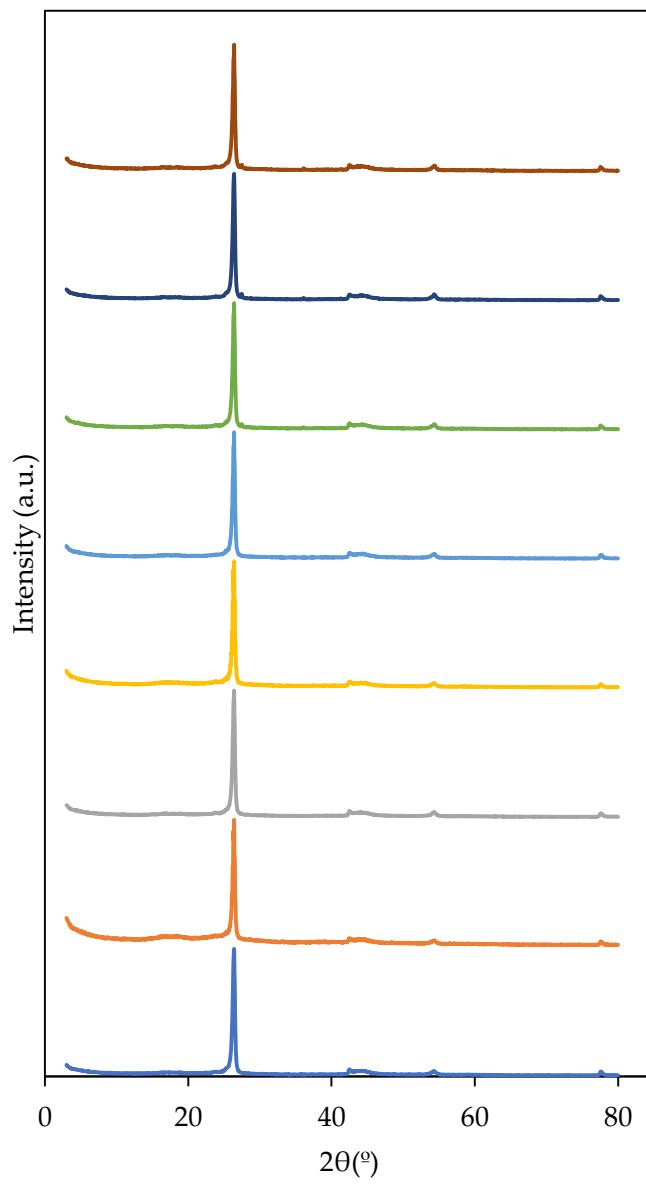


Figure S1: FESEM images of (a) G, (b) G/Si, (c) G/Ti and (d) G/Ti-900.



— G  
— G/Ti  
— G/Ti\_PANI\_10s  
— G/Ti\_PANI\_30s  
— G/Ti\_PANI\_5min  
— G/Ti\_PANI\_10s-900  
— G/Ti\_PANI\_30s-900  
— G/Ti\_PANI\_5min-900

Figure S2: XRD patterns of all Titania composites.

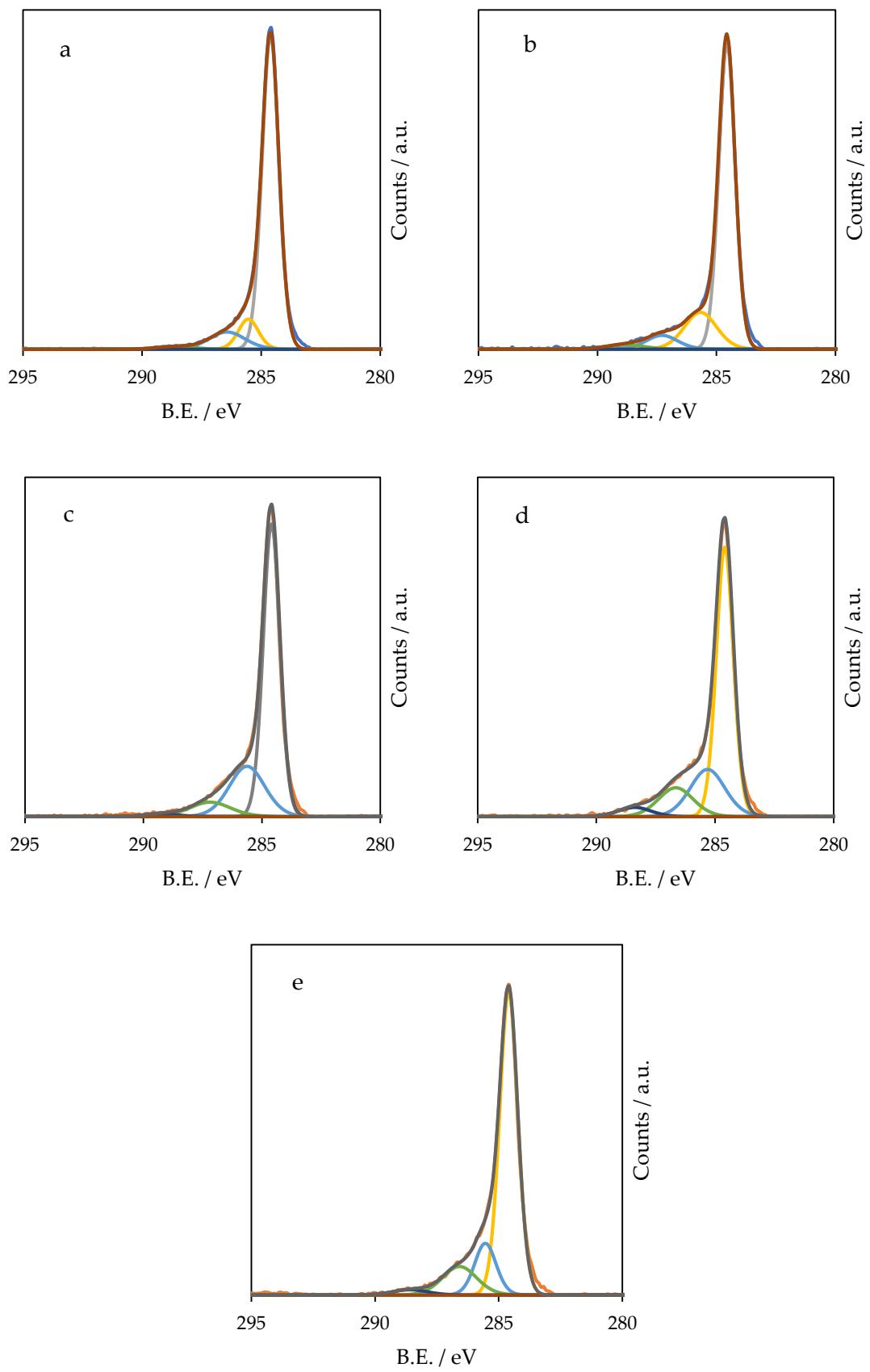


Figure S3: C1s spectra of (a) G, (b) G/Si, (c) G/Si\_PANI\_10s, (d) G/Si\_PANI\_30s, (e) G/Si\_PANI\_5min.

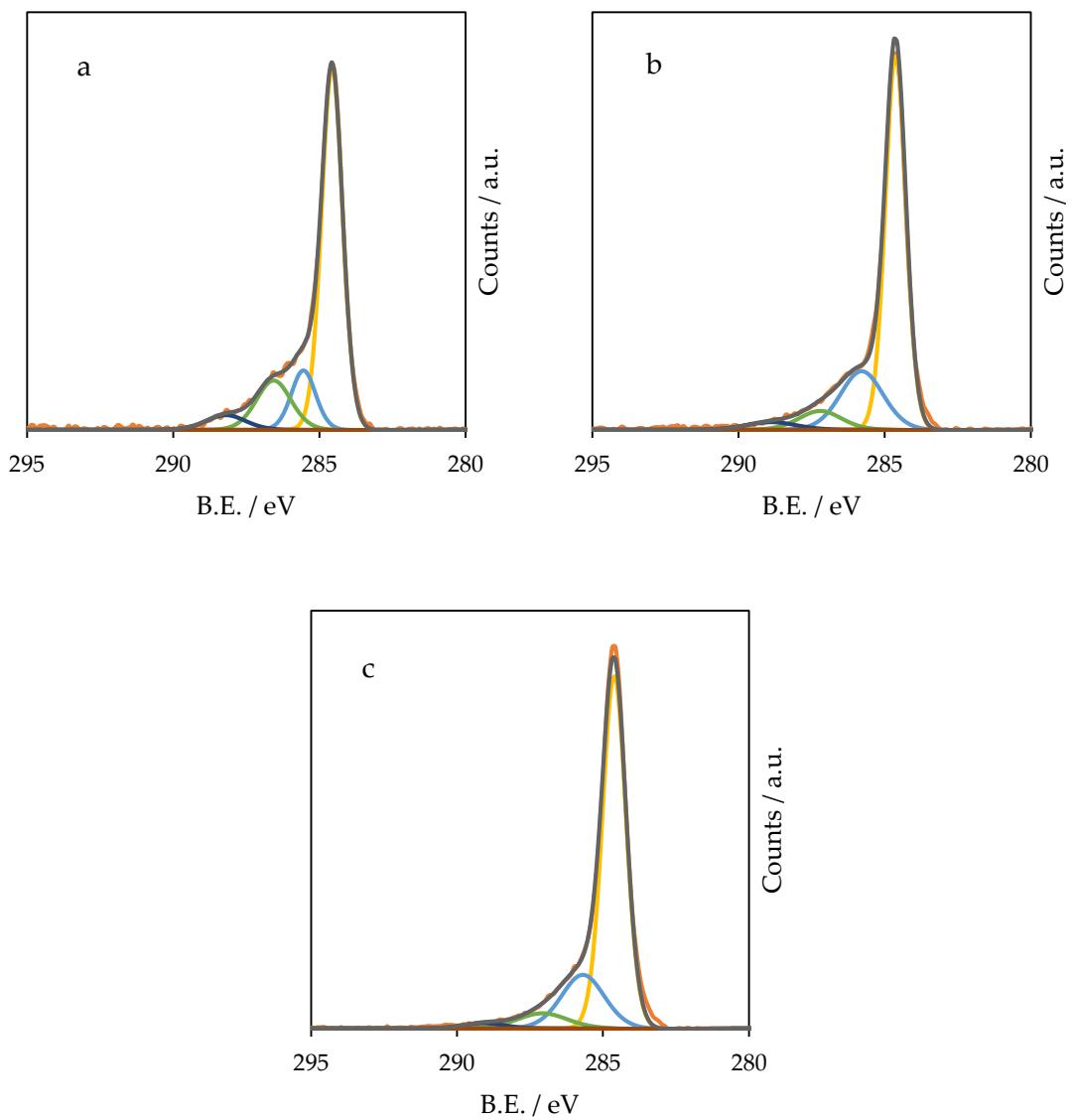


Figure S4: C1s spectra of (a) G/Si\_PANI\_10s-900, (b) G/Si\_PANI\_30s-900 and (c) G/Si\_PANI\_5min-900.

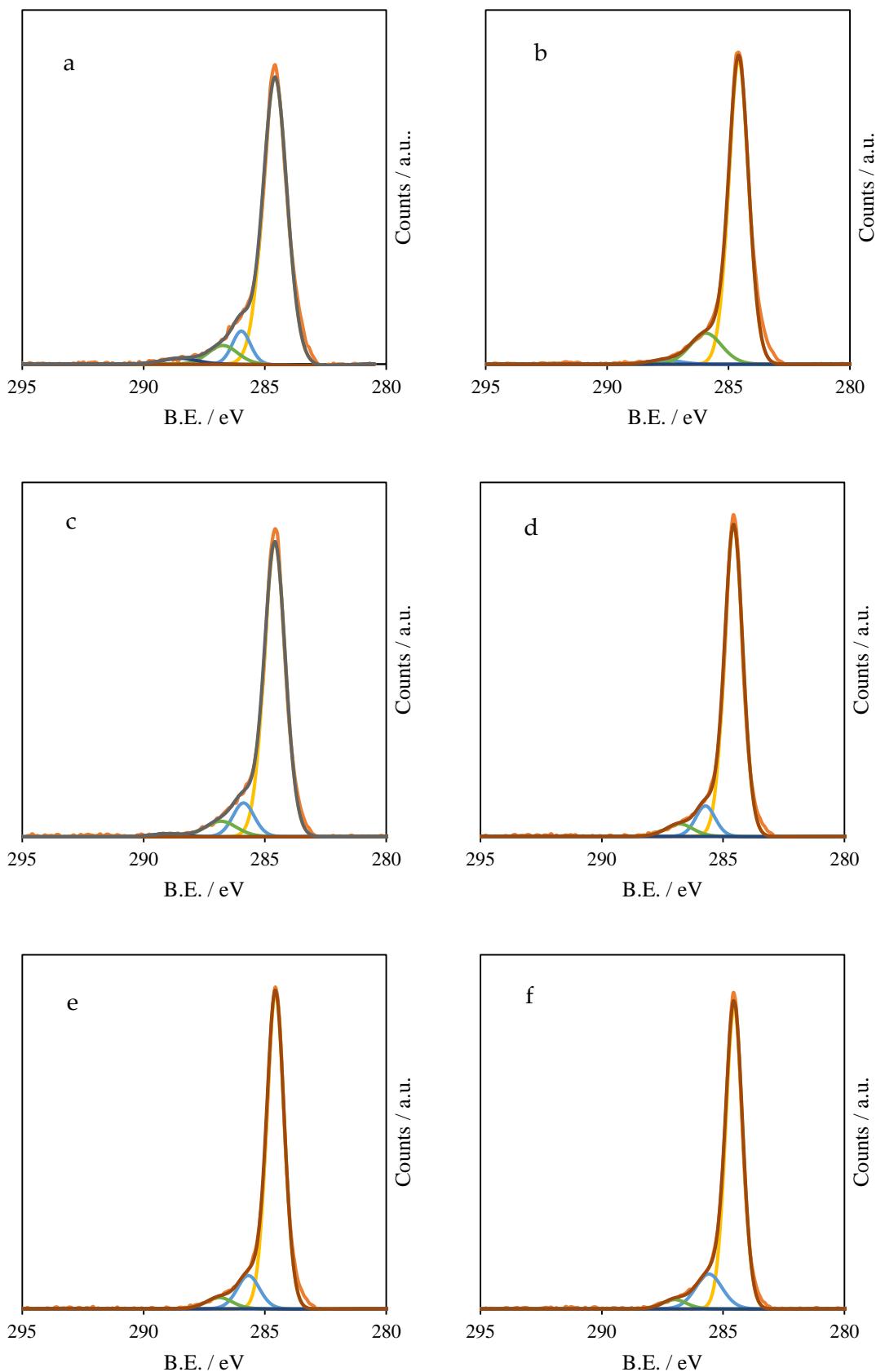


Figure S5: C1s spectra of (a) G/Ti\_PANI\_10s, (b) G/Ti\_PANI\_30s, (c) G/Ti\_PANI\_5min, (d) G/Ti\_PANI\_10s-900, (e) G/Ti\_PANI\_30s-900 and (f) G/Ti\_PANI\_5min-900.

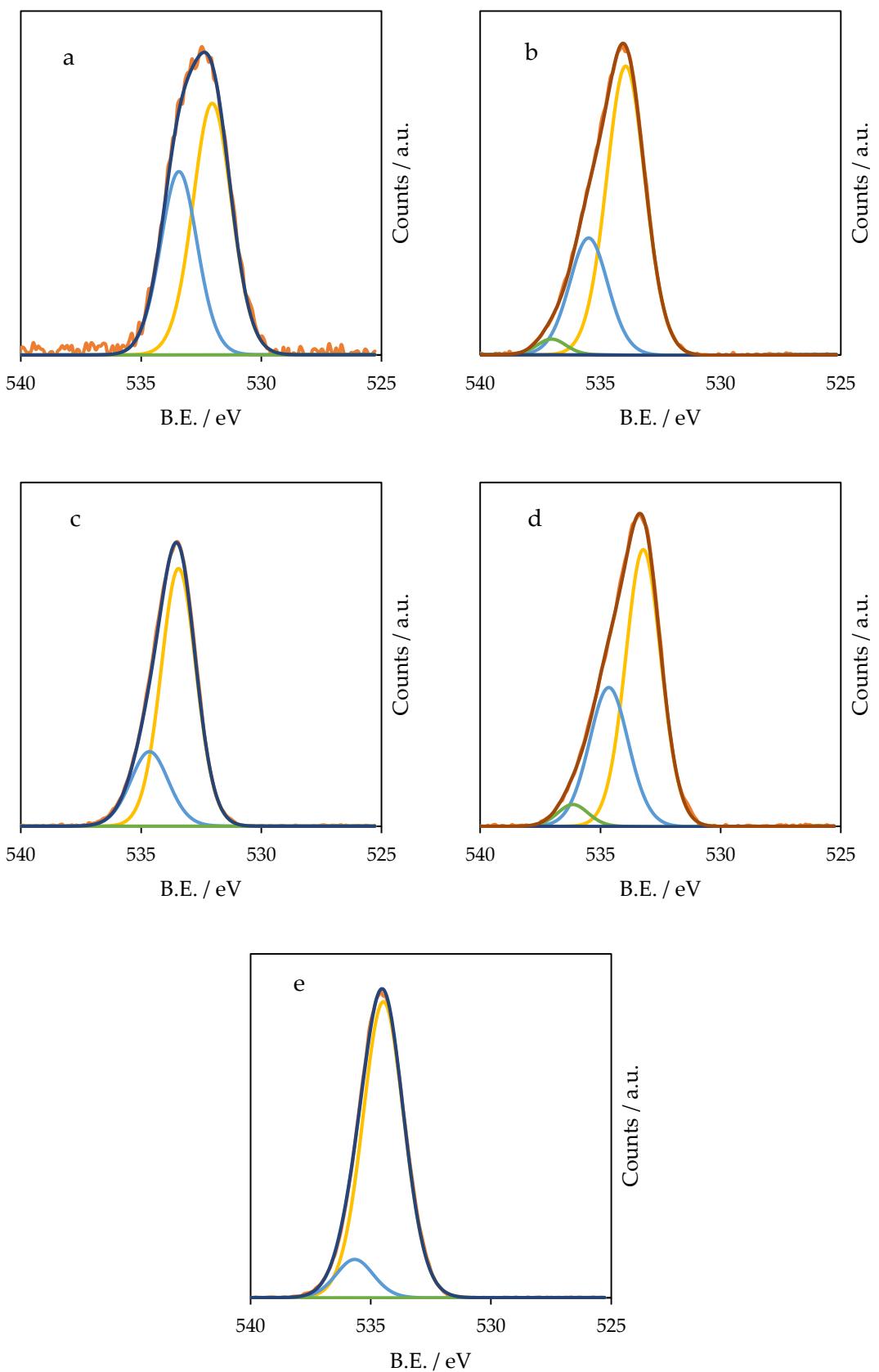


Figure S6: O1s spectra of (a) G, (b) G/Si, (c) G/Si\_PANI\_10s, (d) G/Si\_PANI\_30s and (e) G/Si\_PANI\_5min.

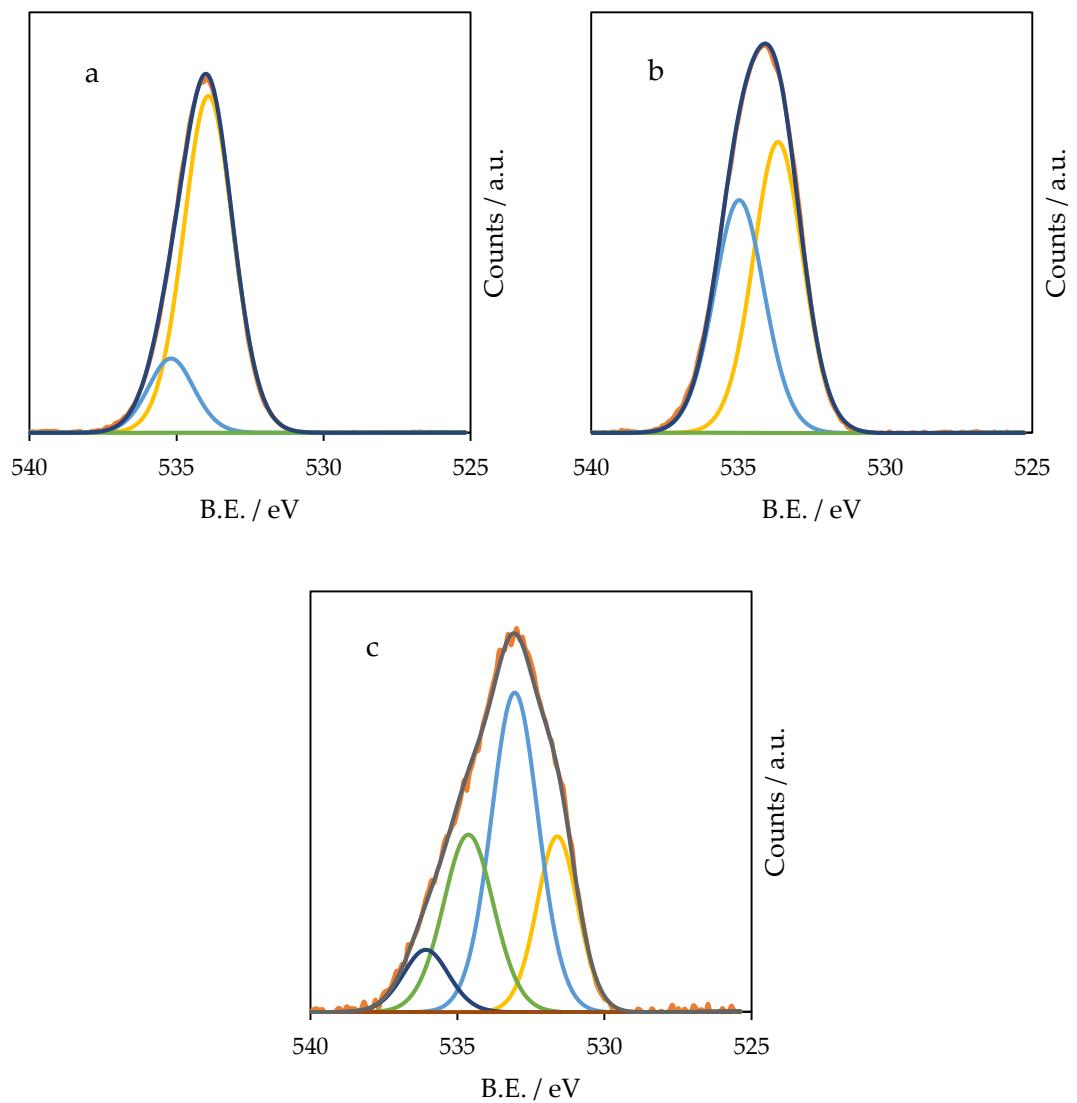


Figure S7: O1s spectra of (a) G/Si\_PANI\_10s-900, (b) G/Si\_PANI\_30s-900 and (c) G/Si\_PANI\_5min-900.

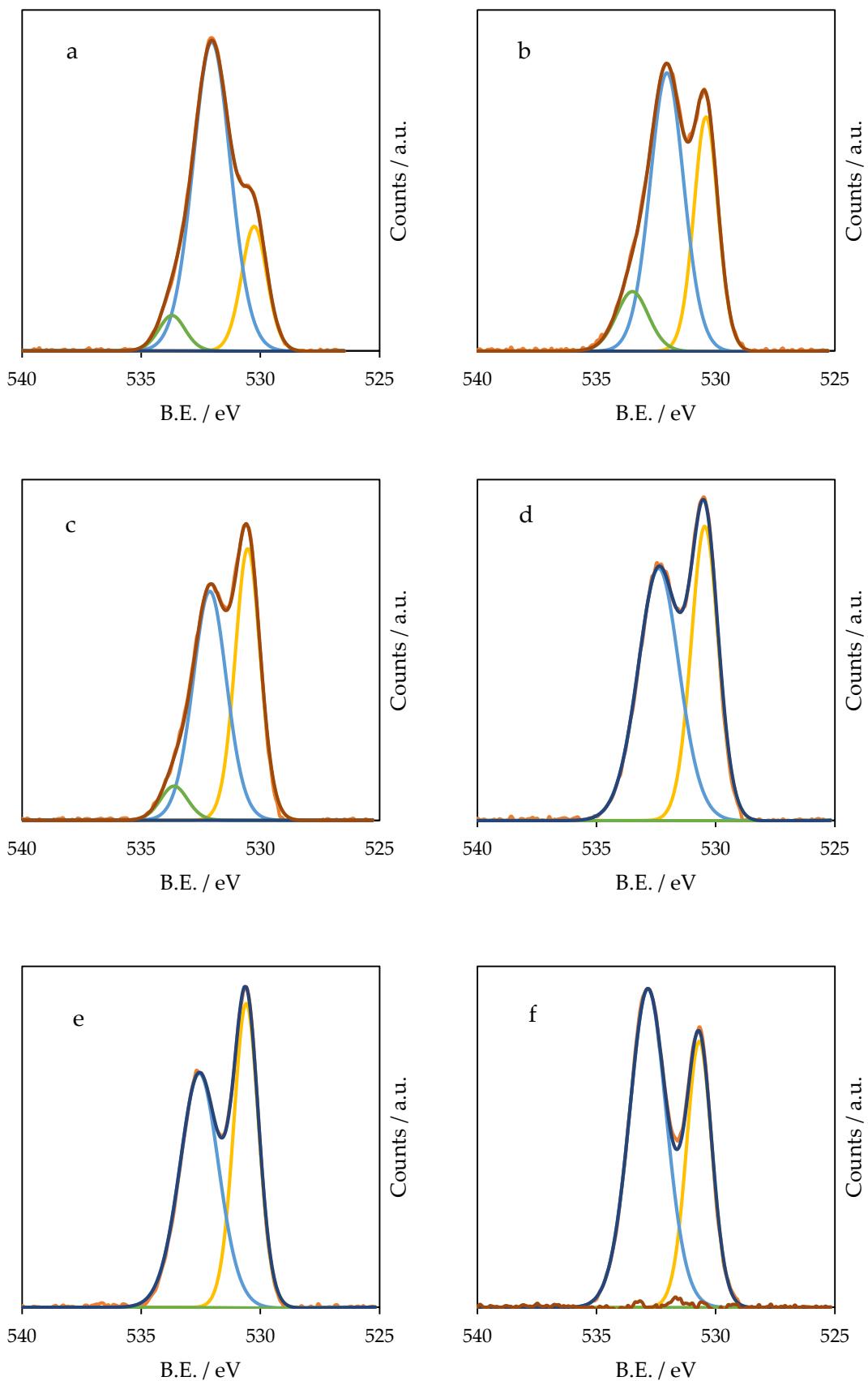


Figure S8: O1s spectra of (a) G/Si\_PANI\_10s, (b) G/Si\_PANI\_30s, (c) G/Si\_PANI\_5min, (d) G/Si\_PANI\_10s-900, (e) G/Si\_PANI\_30s-900 and (f) G/Si\_PANI\_5min\_900.

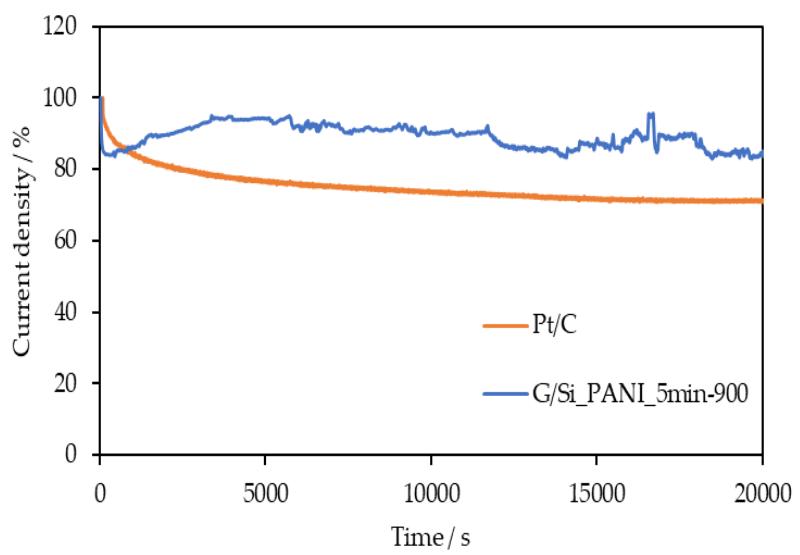


Figure S9: Chronoamperometric test of G/Si\_PANI\_5min-900 (blue line) and Pt/C (orange line). E = 0.65 V vs RHE.

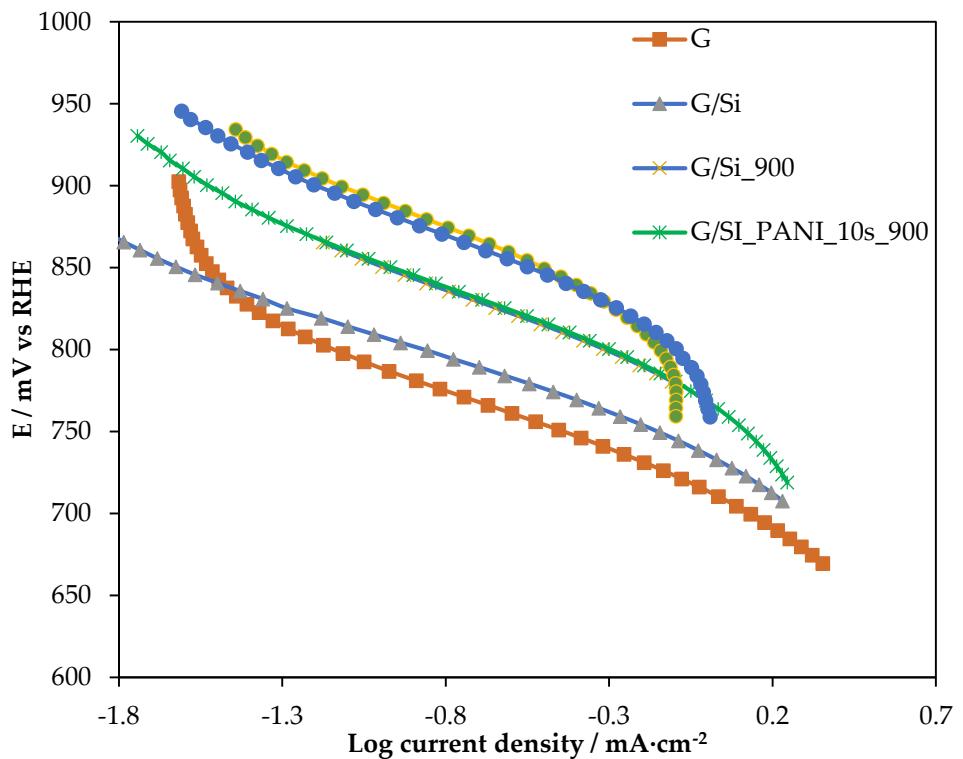


Figure S10: Tafel plots of the ORR of G/Ti samples in O<sub>2</sub>-saturated 0.1 M KOH solution at 25°C, 5 mV·s<sup>-1</sup>.

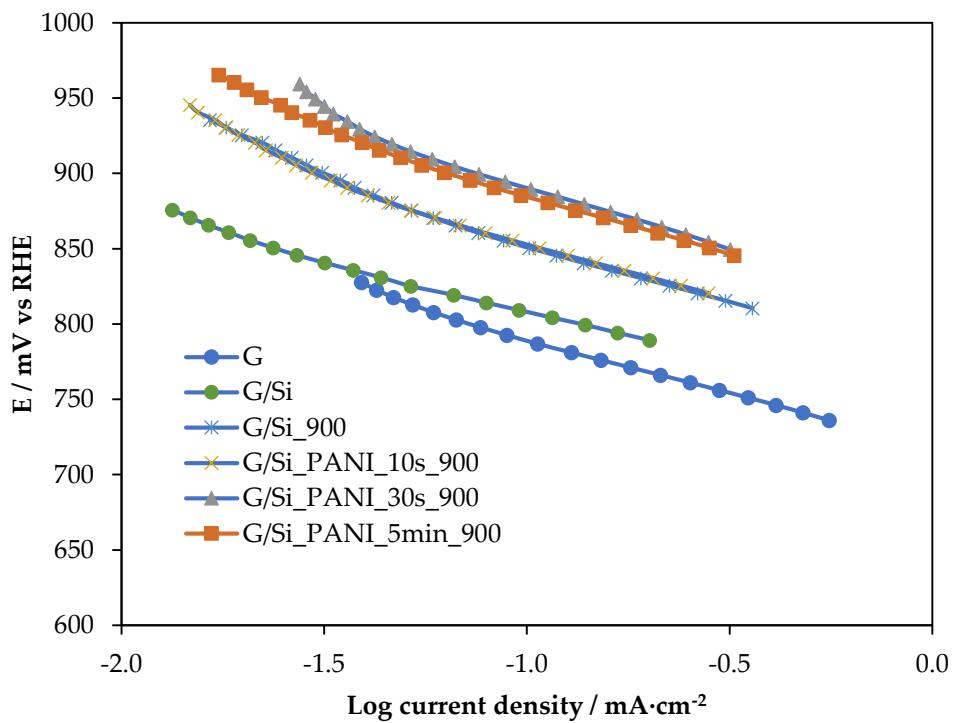


Figure S11: Tafel plots of the ORR of G/Si samples in O<sub>2</sub>-saturated 0.1 M KOH solution at 25°C, 5 mV·s<sup>-1</sup>.