

Supporting Materials

In-situ FTIR study of 2D-carbon materials for CO₂ splitting under non-thermal plasma – selective CO production

Marek Wiśniewski^{a,*} and Xinying Liu^b

^{a.} *Physicochemistry of Carbon Materials Research Group, Faculty of Chemistry, Nicolaus Copernicus University in Toruń, Gagarina 7, 87-100 Torun, Poland.*

^{b.} *Institute for Development of Energy for African Sustainability, University of South Africa, Private Bag X6, Florida 1710, South Africa.*

e-mail: marekw@umk.pl (Marek Wiśniewski)

tel. : (+48) (56) 611-45-07

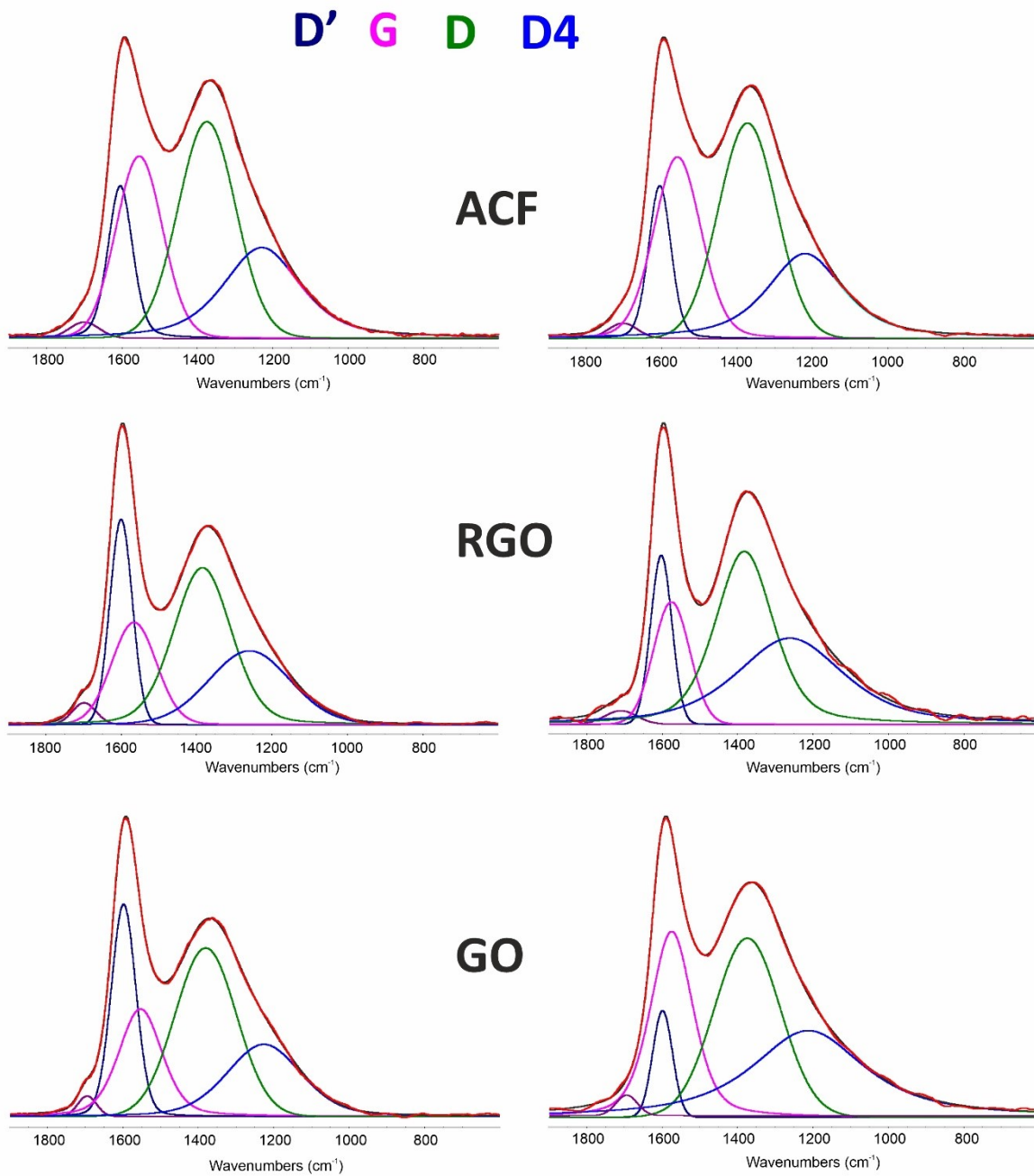
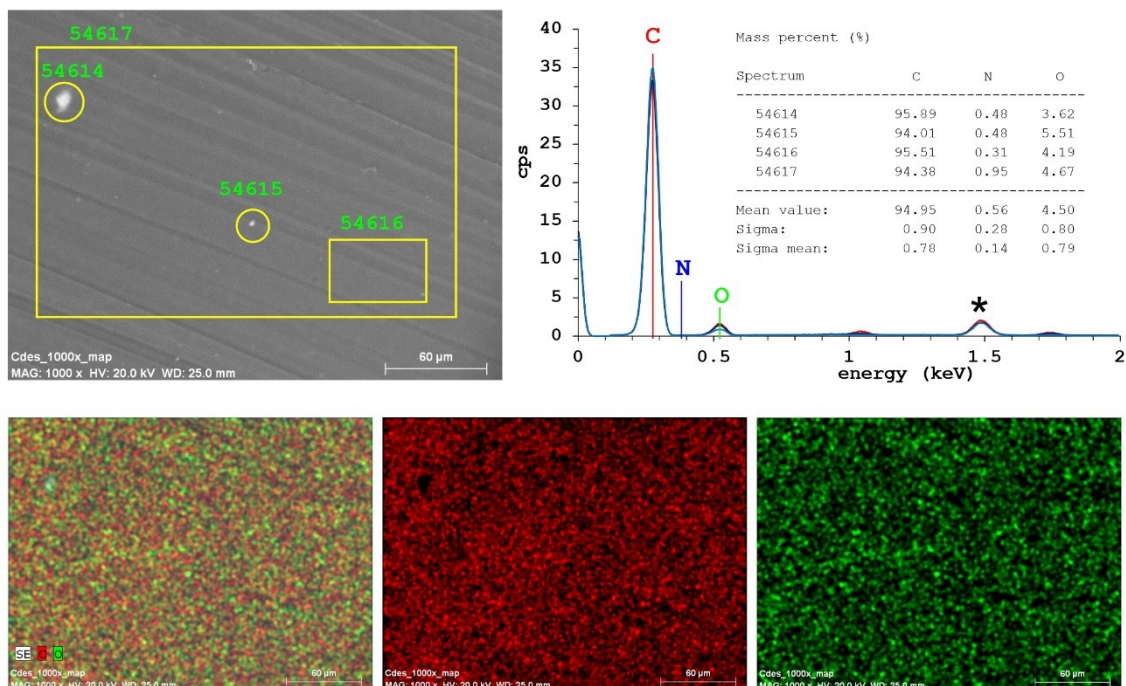


Figure S1. Raman spectra of tested materials before (left panel) and after (right panel) 30 min reaction.

(A)



(B)

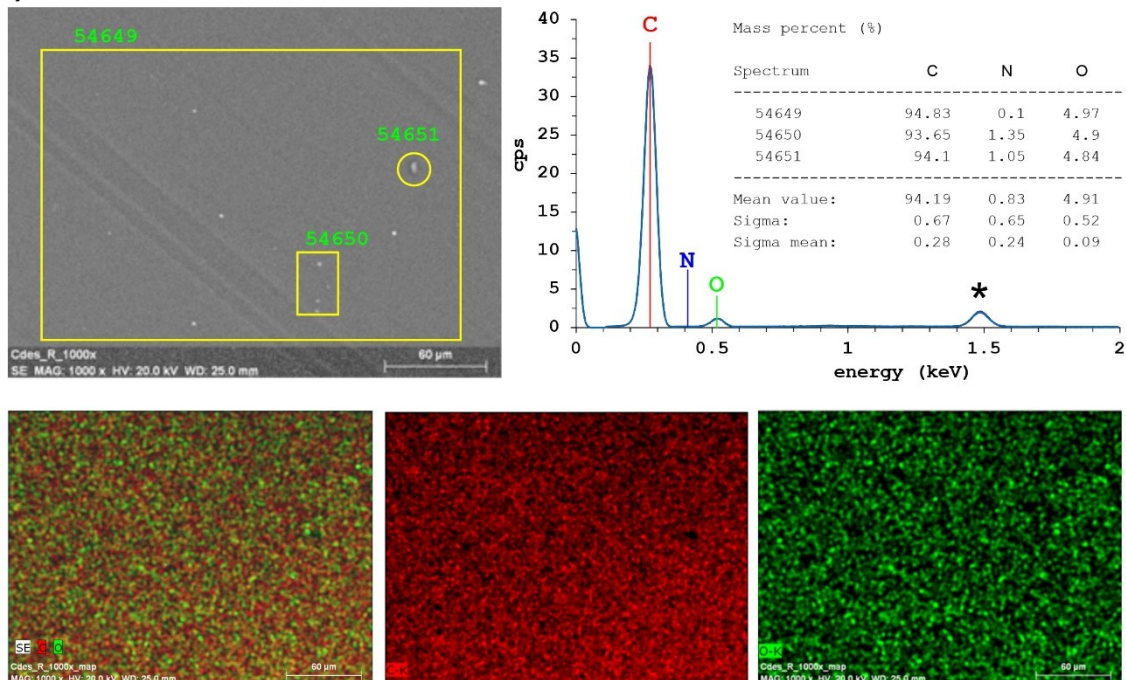
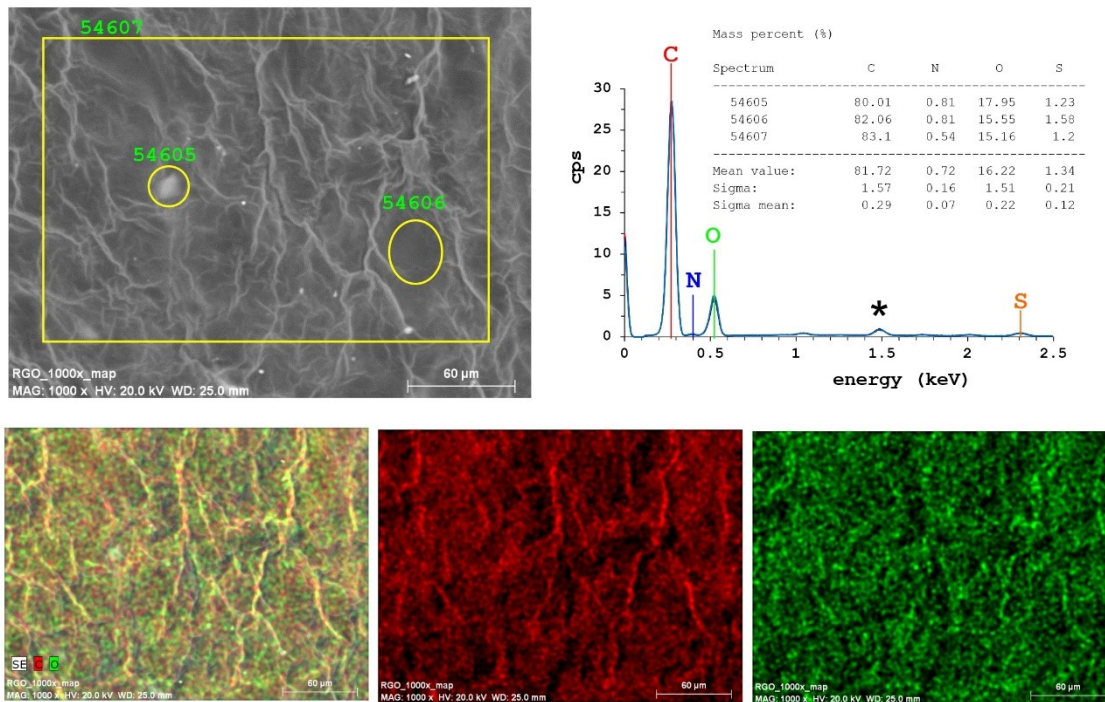


Figure S2. EDX analysis of ACF sample. Panel (A) before and (B) after 30 min reaction.

(A)



(B)

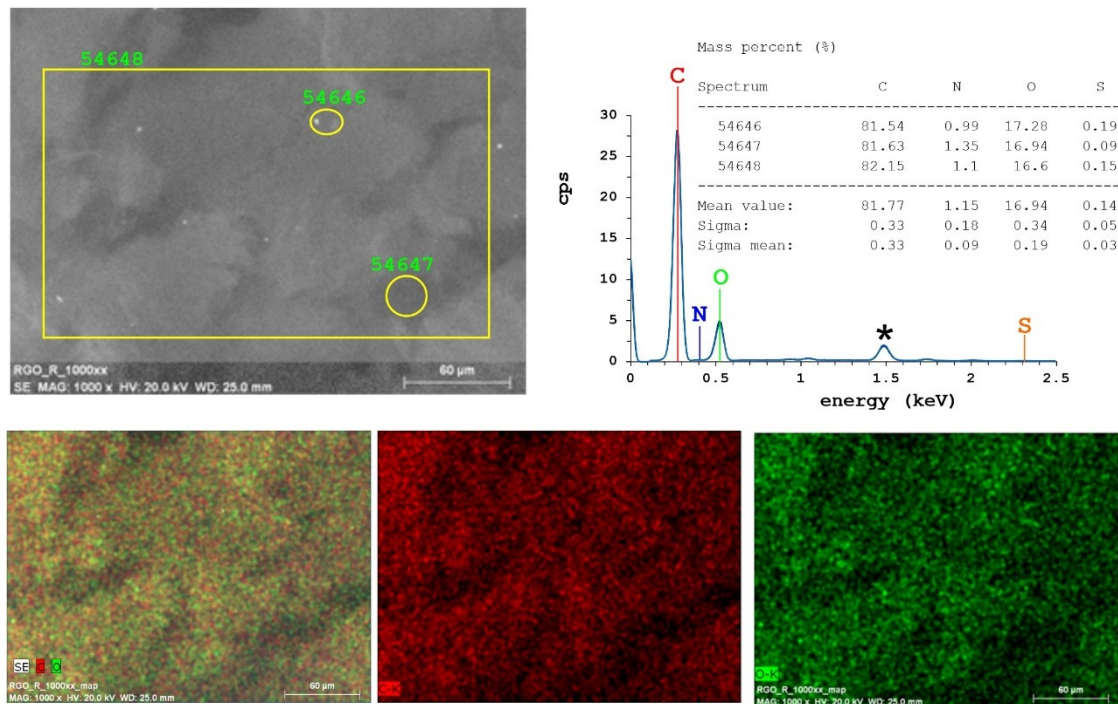
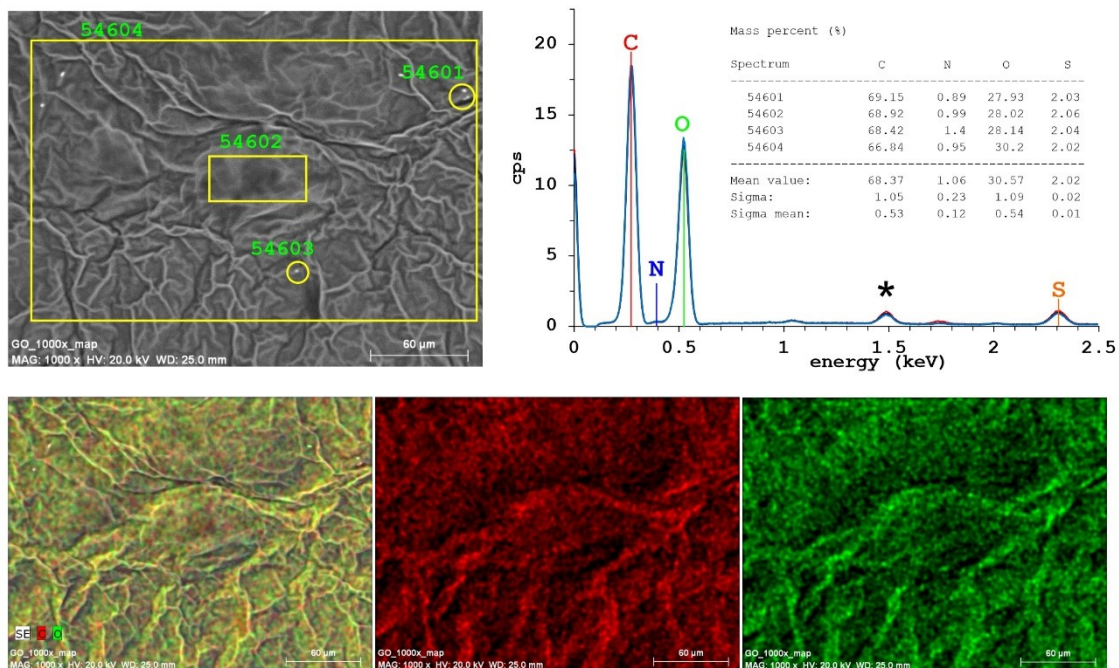


Figure S3. EDX analysis of RGO sample. Panel (A) before and (B) after 30 min reaction.

(A)



(B)

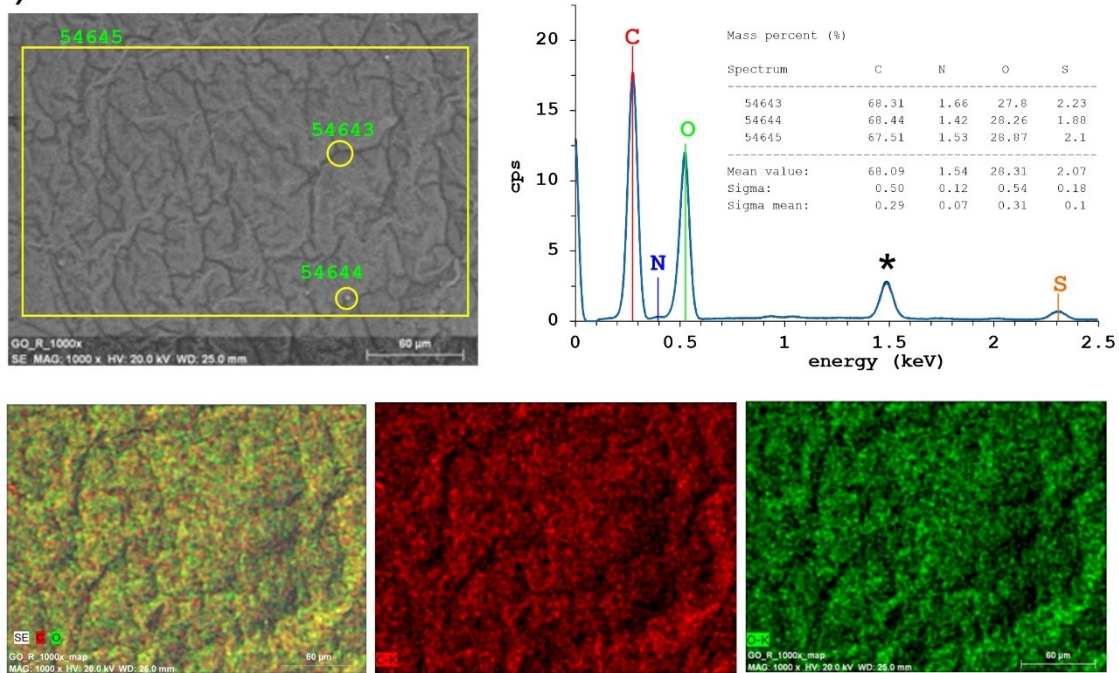


Figure S4. EDX analysis of GO sample. Panel (A) before and (B) after 30 min reaction.

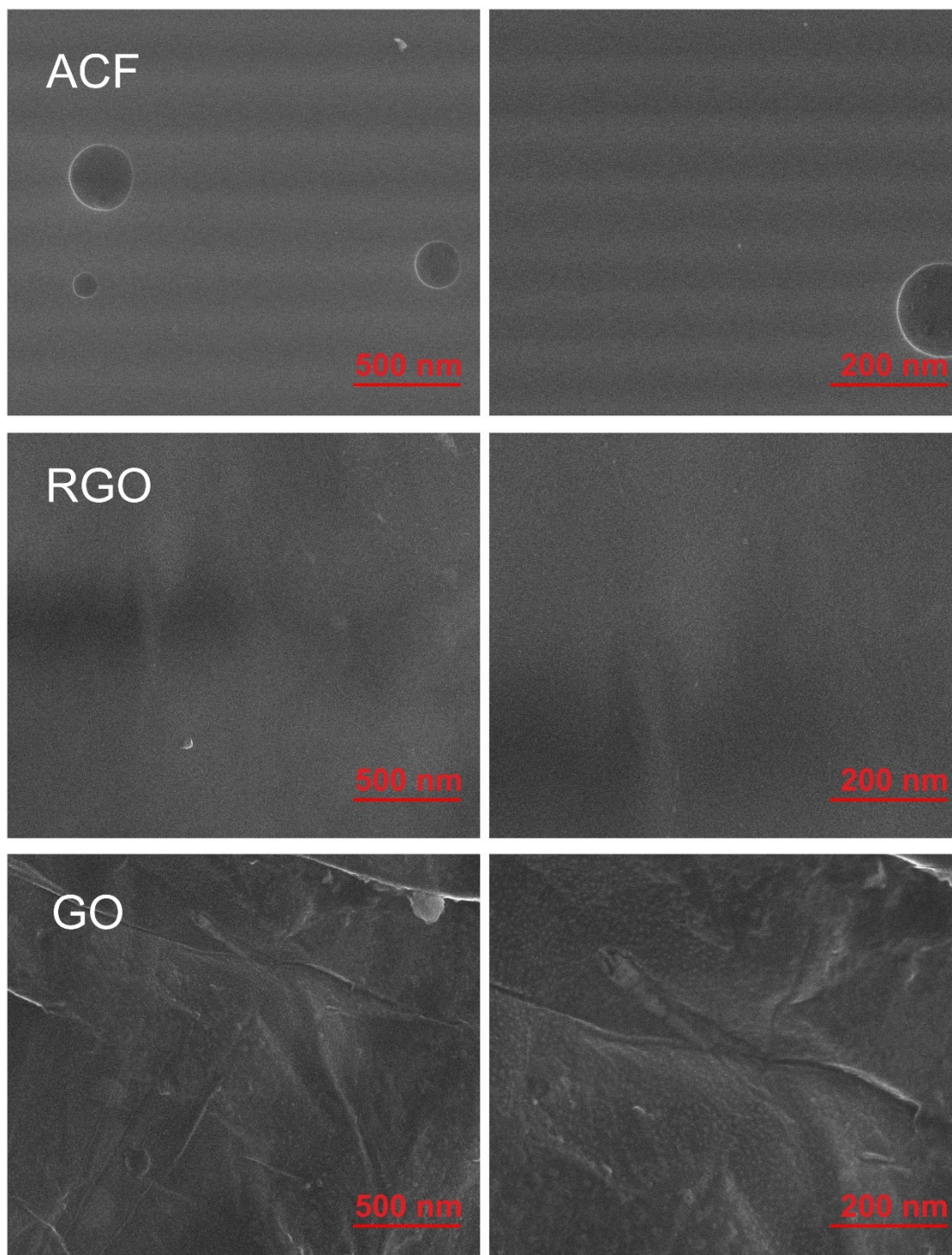


Figure S5. The SEM pictures of the samples after blank tests, the exposition to Ar non-thermal plasma.

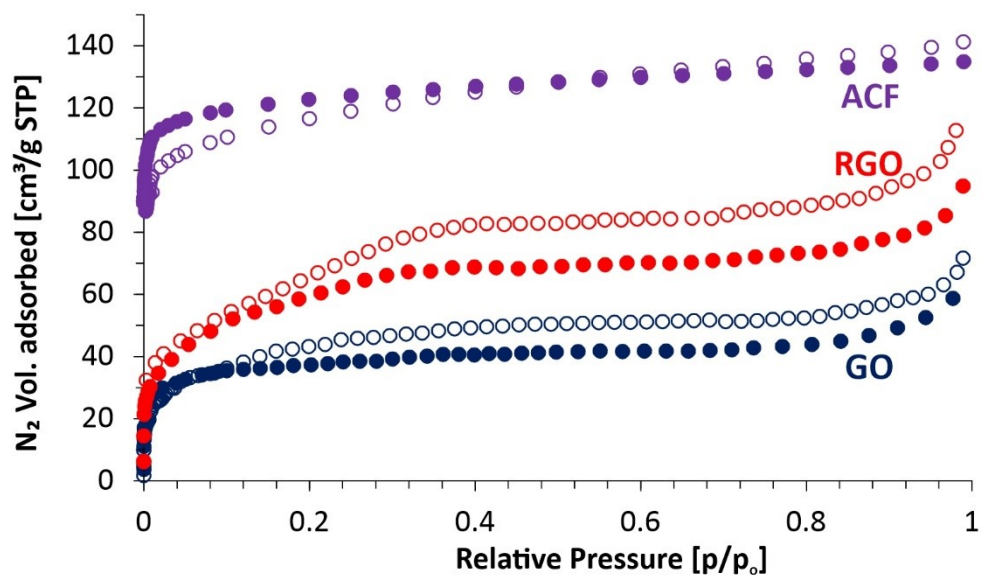


Figure S6. Low temperature N₂ adsorption isotherm of tested samples; filled symbols – before, empty symbols – after 30 min reaction.