



Plasma-Assisted Chemical Vapor Deposition of F-Doped MnO₂ Nanostructures on Single Crystal Substrates

Lorenzo Bigiani ¹, Chiara Maccato ^{1,*}, Alberto Gasparotto ¹, Cinzia Sada ², Elza Bontempi ³ and Davide Barreca ⁴

¹ Department of Chemical Sciences, Padova University and INSTM, 35131 Padova, Italy; lorenzo.bigiani@phd.unipd.it (L.B.); alberto.gasparotto@unipd.it (A.G.)

² Department of Physics and Astronomy, Padova University and INSTM, 35131 Padova, Italy; cinzia.sada@unipd.it

³ Chemistry for Technologies Laboratory, Department of Mechanical and Industrial Engineering, Brescia University and INSTM, 25123 Brescia, Italy; elza.bontempi@unibs.it

⁴ CNR-ICMATE and INSTM, Department of Chemical Sciences, Padova University, 35131 Padova, Italy; davide.barreca@unipd.it

* Correspondence: chiara.maccato@unipd.it; Tel.: +39-0498275234

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S1. Chemico-physical Characterization

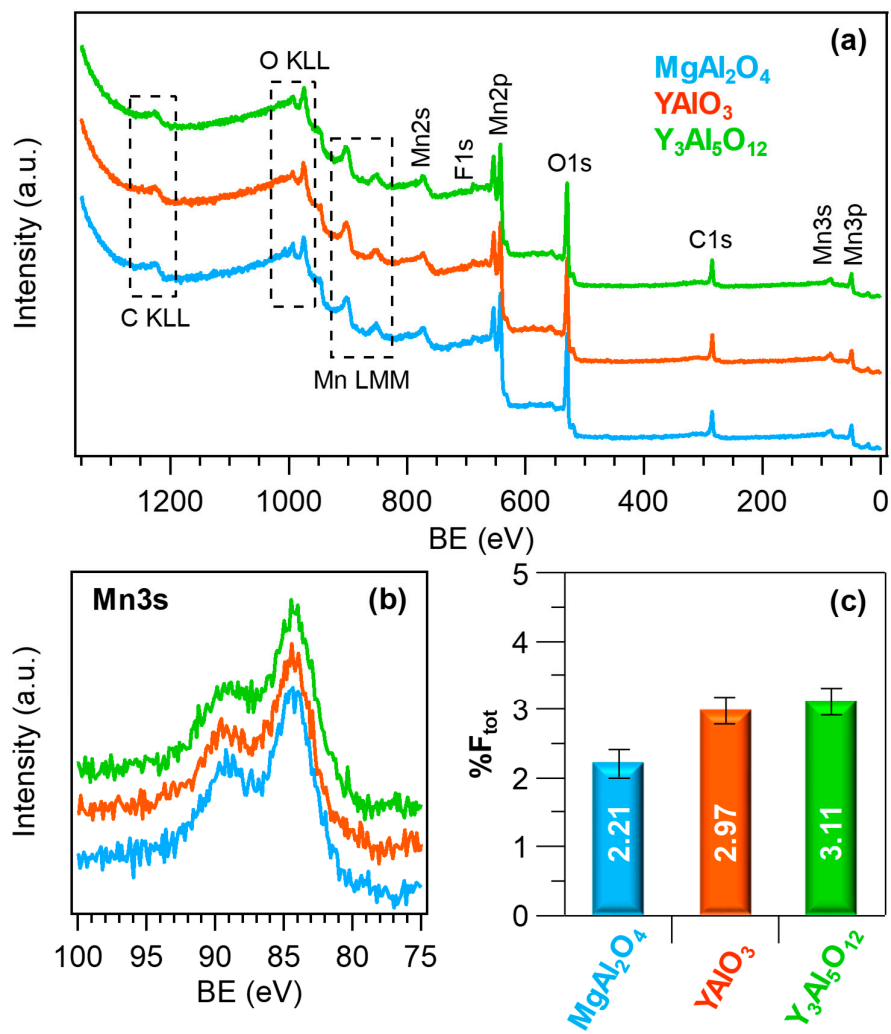


Figure S1 (a) Wide-scan XPS surveys for MnO_2 samples deposited on $\text{MgAl}_2\text{O}_4(100)$, $\text{YAlO}_3(010)$ and $\text{Y}_3\text{Al}_5\text{O}_{12}(100)$. (b) Mn3s photopeaks and (c) total surface fluorine content for the different analyzed specimens.

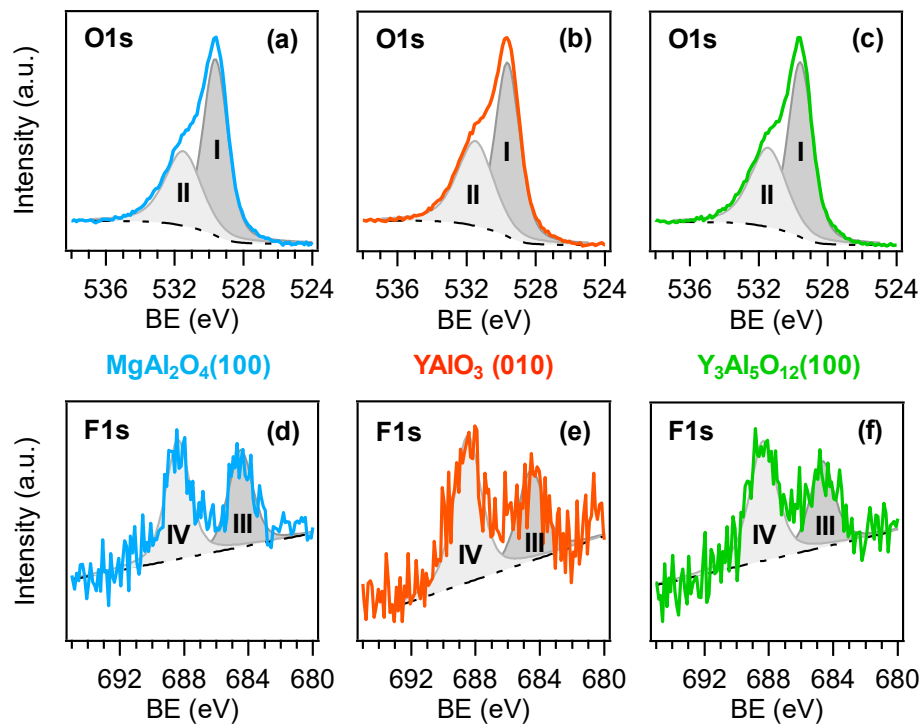


Figure S2. Surface O1s (a–c) and F1s (d–f) spectra, along with the corresponding fitting components, for MnO₂ specimens. The contribution of component (II) to the total O content was estimated to be 39.0%, 43.0% and 41.0% for samples supported on MgAl₂O₄(100), YAlO₃(010) and Y₃Al₅O₁₂(100), respectively. The contribution of component (IV) to the total F content was estimated to be 56.0%, 62.0% and 61.0% for samples supported on MgAl₂O₄(100), YAlO₃(010) and Y₃Al₅O₁₂(100), respectively.

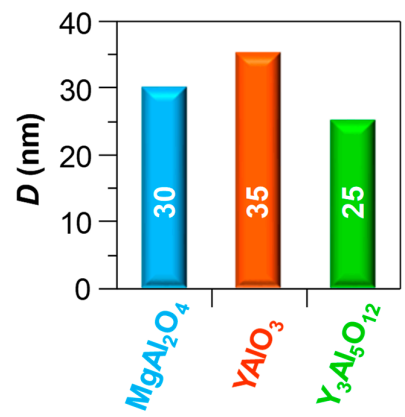


Figure S3. Crystallite size (*D*) values for MnO₂ samples deposited on different substrates.