# Oxidative Deactivation of SARS-CoV-2 on photoactive AgNPs@$TiO_2$ Ceramic Tiles

R. Djellabi[1*], N. Basilico[2], S. Delbue[2], S. D'Alessandro[3], S. Parapini[4], G. Cerrato[5], E. Laurenti[5], E. Falletta[1], C.L. Bianchi[1*]

[1]Department of Chemistry, University of Milan, , via Golgi 19, 20133, Milan, Italy
[2]Department of Biomedical, Surgical and Dental Sciences, University of Milan, Via della Commenda 10 20122 Milano, Italy. nicoletta.basilico@unimi.it (N.B.); serena.delbue@unimi.it (S.D.)
[3]Department of Department of Pharmacological and Biomolecular Sciences, University of Milan, Via Bal-zaretti 9, 20133 Milano , Italy . sarah.dalessandro@unimi.it
[4]Department of Biomedical Sciences for Health, University of Milan, Via Luigi Mangiagalli, 31, 20133 Milan, Italy
[5]Department of Chemistry, University of Turin, via P. Giuria 7 – 10125, Turin, Italy

***Corresponding authors:** claudia.bianchi@unimi.it; ridha.djellabi@unimi.it

**Supplementary data**

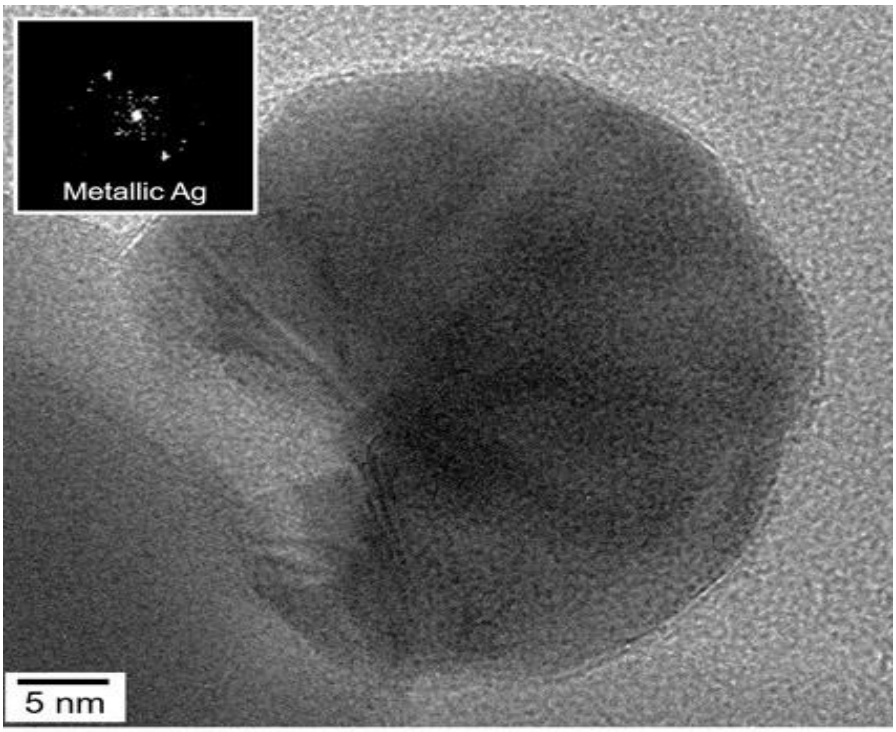


**Figure S1.** FFT analysis to check the form of Ag species in Ag@$TiO_2$ tile.

**Table S1.** Results of antiviral experiments on the surface of glass and Ag@$TiO_2$ tile in dark and light irradiation conditions.

| Surface | Light | Log PFU/cm$^2$ Time = 0 h | Log PFU/cm$^2$ Time = 4 h | Log PFU/cm$^2$ Time = 7 h | Log10 reduction | Viral inhibition % |
|---|---|---|---|---|---|---|
| Glass | Dark | 5.146 | 4.339 | | 0.807 | 84.40 |
| | LED | 5.146 | 4.244 | | 0.902 | 87.47 |
| | UV | 5.146 | 4.205 | | 0.941 | 88.55 |
| Ag-$TiO_2$ Tile | Dark | 5.146 | 4.104 | | 1.042 | 90.92 |
| | LED | 5.146 | 3.903 | | 1.243 | 94.29 |
| | UV | 5.146 | 3.371 | | 1.775 | 98.32 |
| Glass | Dark | 5.146 | | 3.973 | 1.173 | 93.29 |
| | LED | 5.146 | | 3.823 | 1.323 | 95.25 |
| | UV | 5.146 | | 3.787 | 1.359 | 95.63 |
| Ag-$TiO_2$ Tile | Dark | 5.146 | | 3.172 | 1.974 | 98.94 |
| | LED | 5.146 | | 2.885 | 2.210 | 99.38 |
| | UV | 5.146 | | 2.526 | 2.620 | 99.76 |

**Table S2: Vero cells viability measured by MTT assay**

| | Adsorbance<br><br>OD 650/550 |
|---|---|
| Control | 1.151 ± 0.151 |
| Glass | 1.293 ± 0.075 |
| Ag@$TiO_2$ surface | 1.209 ± 0.074 |

Data are the mean and standard deviation from three replicates.