Supplementary Information

Synergistic catalytic action of vanadia-titania composites towards the microwave-assisted benzoin oxidation

Francesco Ferretti,[a,d] Ana P.C. Ribeiro,[a] Elisabete C.B.A. Alegria,[a,b*] Ana M. Ferraria,[c] Maximilian N. Kopylovich,[a*] M. Fátima C. Guedes da Silva,[a] Fabio Marchetti,[d] Armando J.L. Pombeiro[a*]

[a]Centro de Química Estrutural, Complexo I, Instituto Superior Técnico, Universidade de Lisboa, 1049-001 Lisboa, Portugal.
[b]Chemical Engineering Departament, Instituto Superior de Engenharia de Lisboa, Instituto Politécnico de Lisboa, 1959-007 Lisboa, Portugal.
[c]CQFM-Centro de Química-Física Molecular and IN and IBB-Institute for Bioengineering and Biosciences, Instituto Superior Técnico, Universidade de Lisboa, 1049-001 Lisboa, Portugal.
[d]School of Science and Technology, Chemistry Section, University of Camerino, Via S. Agostino 1, 62032 Camerino, Italy.

Email: ebastos@deq.isel.ipl.pt, maximilian.kopylovich@tecnico.ulisboa.pt, pombeiro@tecnico.ulisboa.pt

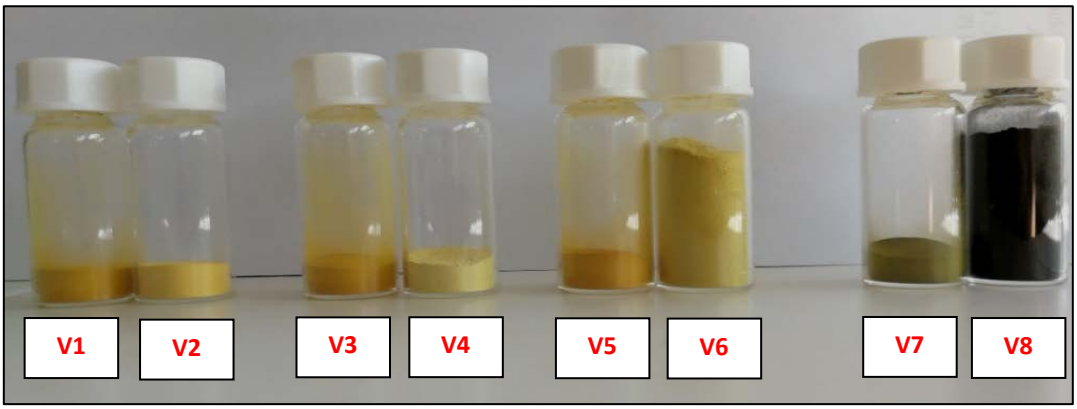

Fig. S1. Vanadium-based composites **V1** [V_2O_5-TiO_2 (95:5)]; **V2** [V_2O_5-TiO_2 (5:95)]; **V3** [V_2O_5-Al_2O_3 (95:5)]; **V4** [V_2O_5-Al_2O_3 (5:95)]; **V5** [V_2O_5-SiO_2 (95:5)]; **V6** [V_2O_5-SiO_2 (5:95)]; **V7** [V_2O_5-AC (95:5)]; **V8** [V_2O_5-AC (5:95)].

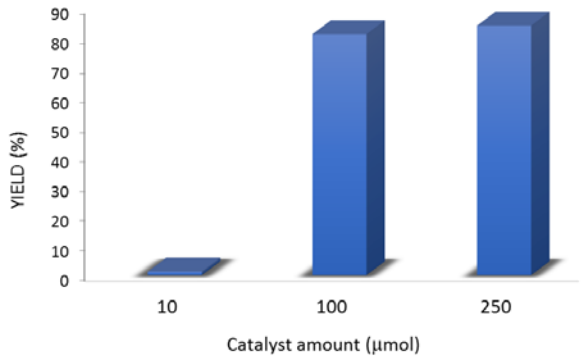

Fig. S2. Dependence of benzil yield on the catalyst amount catalysed by the V_2O_5-TiO_2 (95:5) mixture.

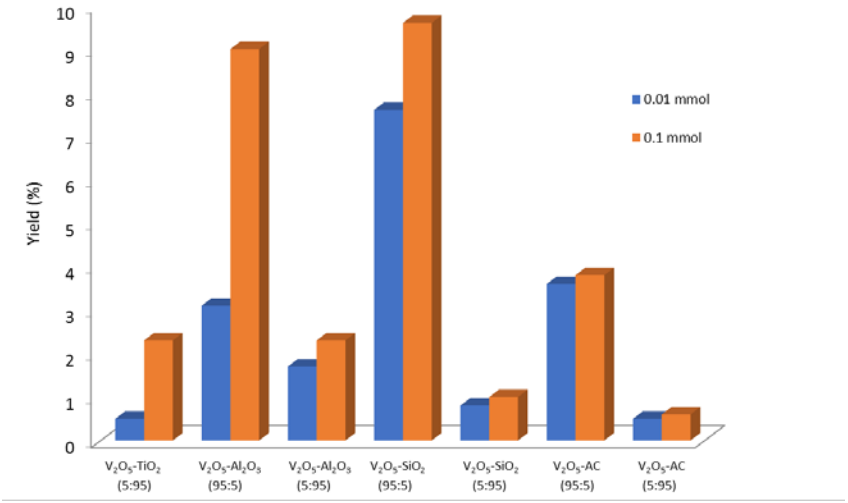

Fig. S3. Dependence of benzil yield on the catalyst amount catalysed by different composites.

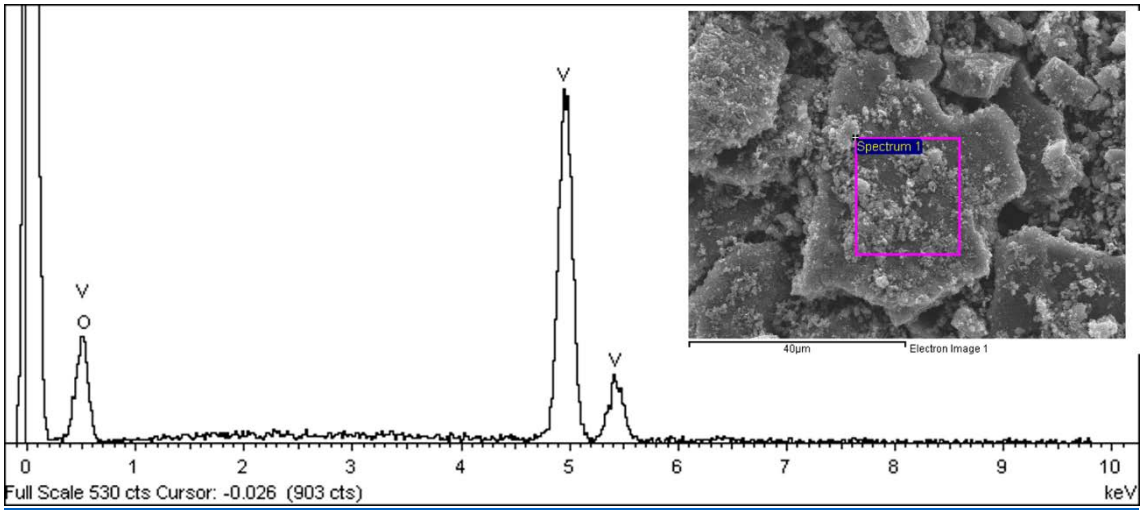

Fig. S4. SEM image and EDX analysis of starting V_2O_5.

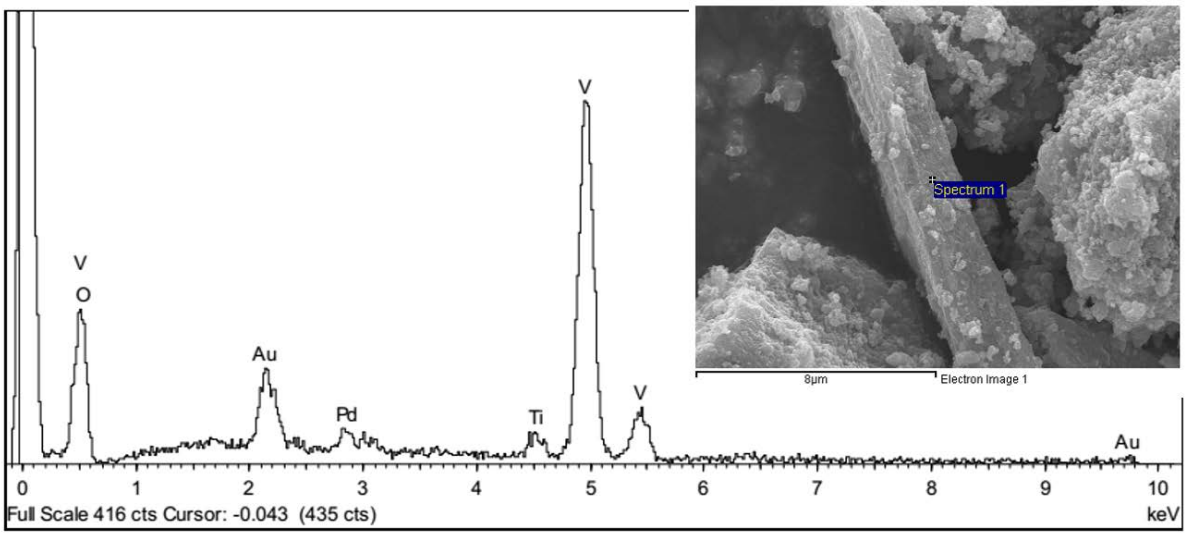

Fig. S5. EDX image of V_2O_5-TiO_2 (95:5) composite.