

Supplemental Information

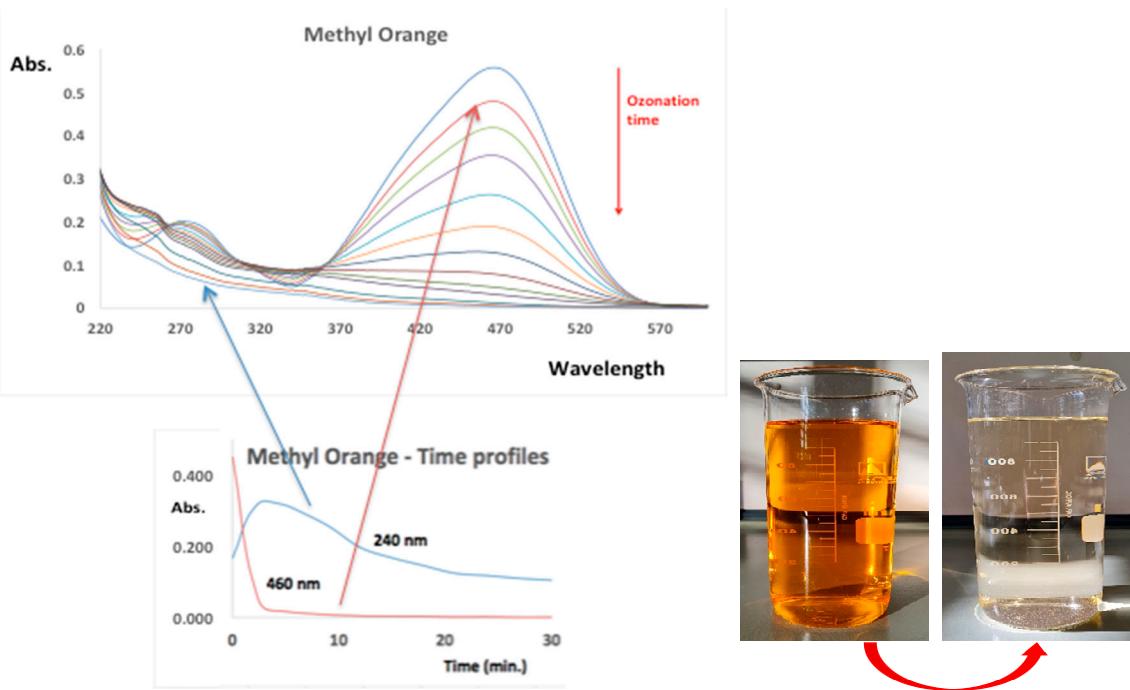
Copper(II)-Doped Carbon Dots as Catalyst for Ozone Degradation of Textile Dyes

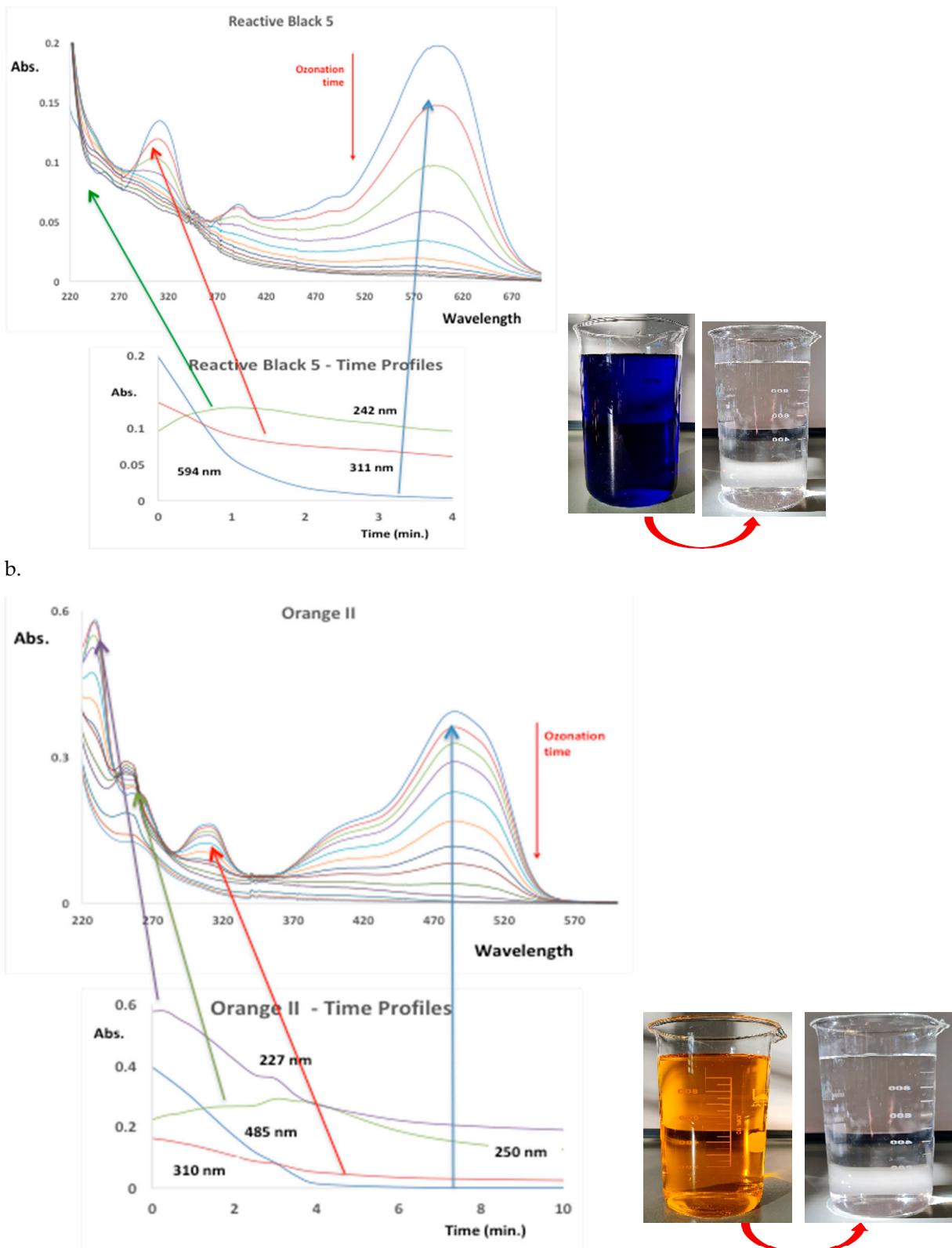
Rita M. F. Cardoso, Inês M. F. Cardoso, Luís Pinto da Silva and Joaquim C. G. Esteves da Silva *

Chemistry Research Unit (CIQUP), Institute of Molecular Sciences (IMS) – DGAOT, Faculty of Sciences of University of Porto (FCUP), Rua do Campo Alegre 697, 4169-007 Porto, Portugal;

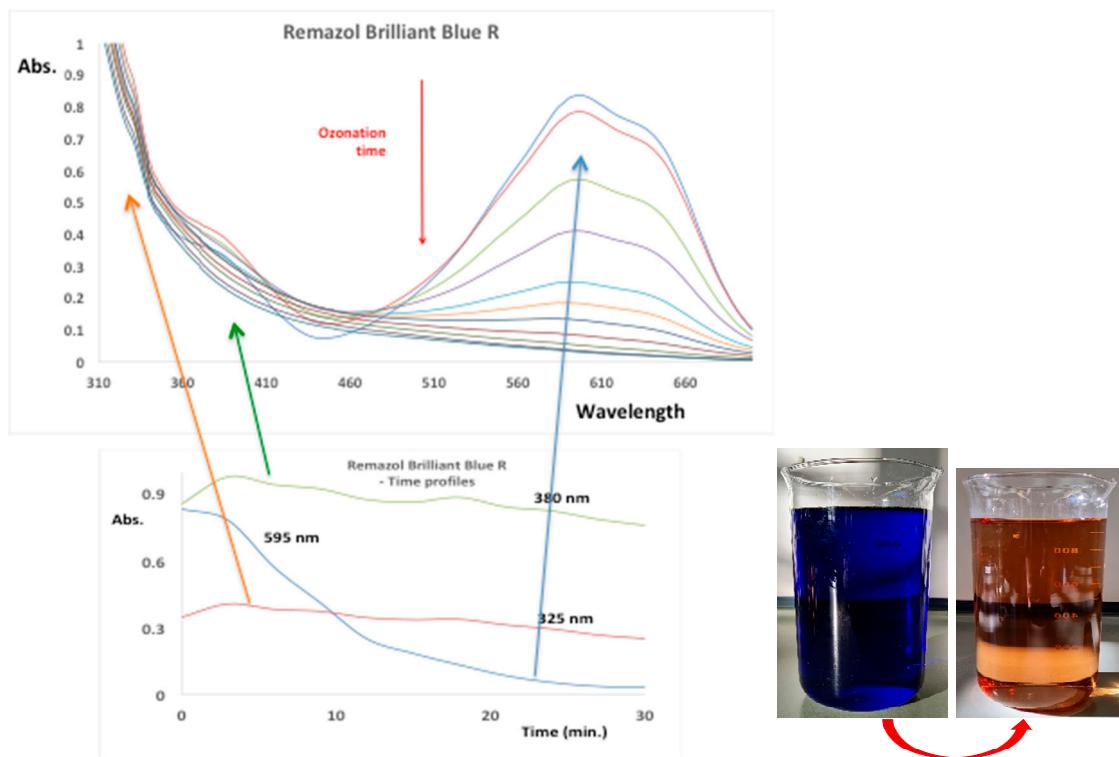
up201704723@edu.fc.up.pt (R.M.F.C.); up201704720@edu.fc.up.pt (I.M.F.C.); luis.silva@fc.up.pt (L.P.d.S.)

* Correspondence: jcsilva@fc.up.pt; Tel.: +351-220402569





C.



d.

Figure S1. - Spectra of dyes as function of the reaction time: (a) Methyl Orange; (b) Reactive Black 5; (c) Orange II; and (d) Remazol Brilliant Blue R.

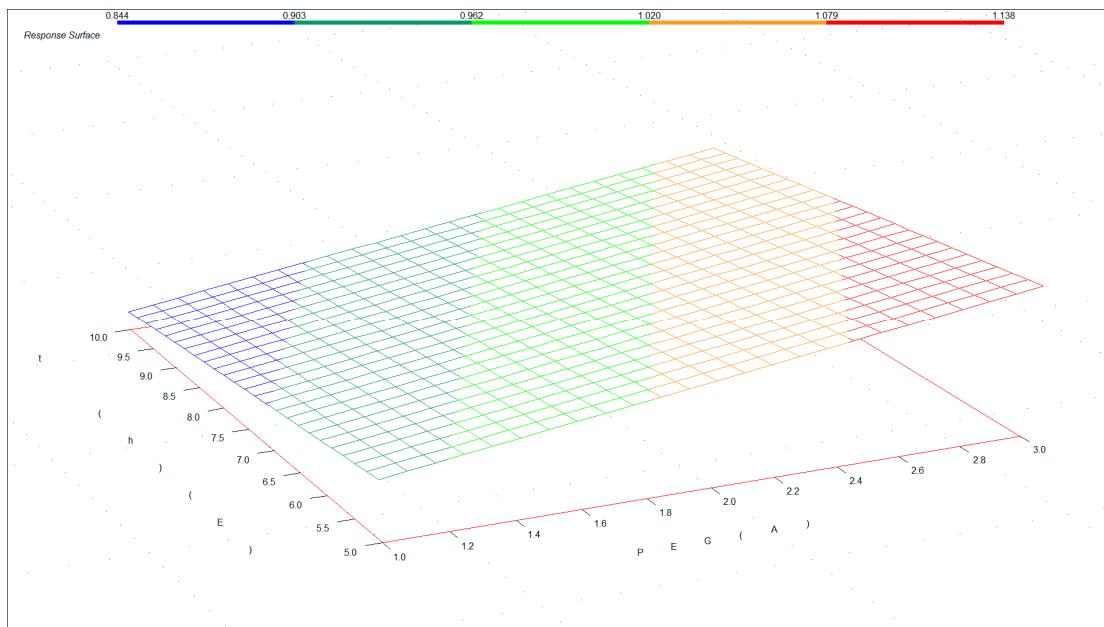


Figure S2. – Response surface of the k_{ap} as function of the factors PEG volume (mL) and time (hours).

Table S1. – ANOVA of the Plackett-Burman experimental design results [multiple correlation: 0.755 (cal); R-Squared: 0.579 (cal); Uncentered B0-coeficient: 1.702].

	SS	DF	MS	F-ratio	p-value	B-coeff.	STDerr
Summary							
Model	0.119	5	0.02388	1.062	0.4903		
Error	0.08990	4	0.02247				
Adjusted Total	0.209	9	0.02325				
Variable							
Intercept	9.822	1	9.822	437.042	0.0000	0.991	0.04741
PEG (A)	0.07685	1	0.07685	3.419	0.1381	0.009801	0.05300
Cysteine (B)	0.004045	1	0.004045	0.180	0.6932	-0.150	0.353
Copper (C)	0.01127	1	0.01127	0.502	0.5179	-0.150	0.212
T (°C) (D)	0.008263	1	0.008263	0.368	0.5770	-0.00321	0.00530
t (h) (E)	0.0189	1	0.0189	0.844	0.4103	-0.01947	0.02120
Lack of Fit							
Lack of Fit	0.08872	3	0.02957	25.145	0.1453		
Pure Error	0.001176	1	0.001176				
Total Error	0.08990	4	0.02247				

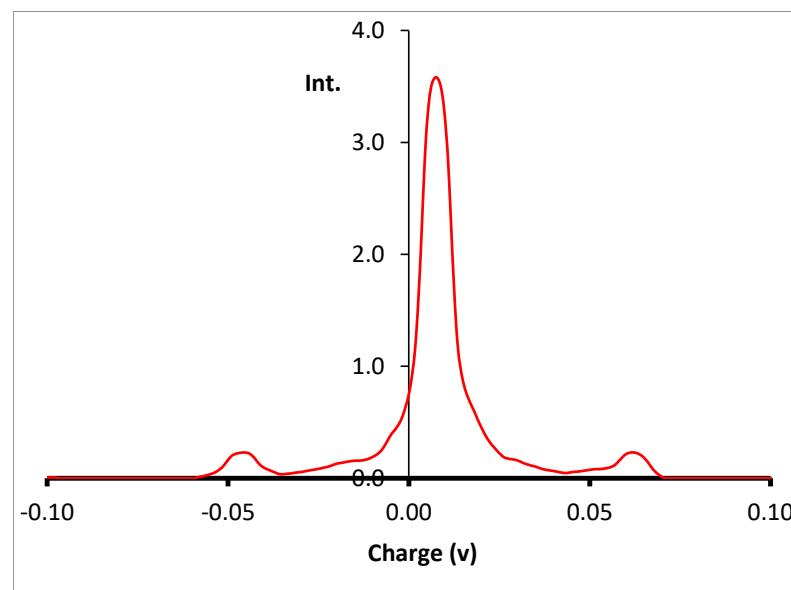


Figure S3. Zeta-potential of the CuCys-CD.



Raw Textile Effluent

Figure S4. Real textile effluent before and after ozonation.

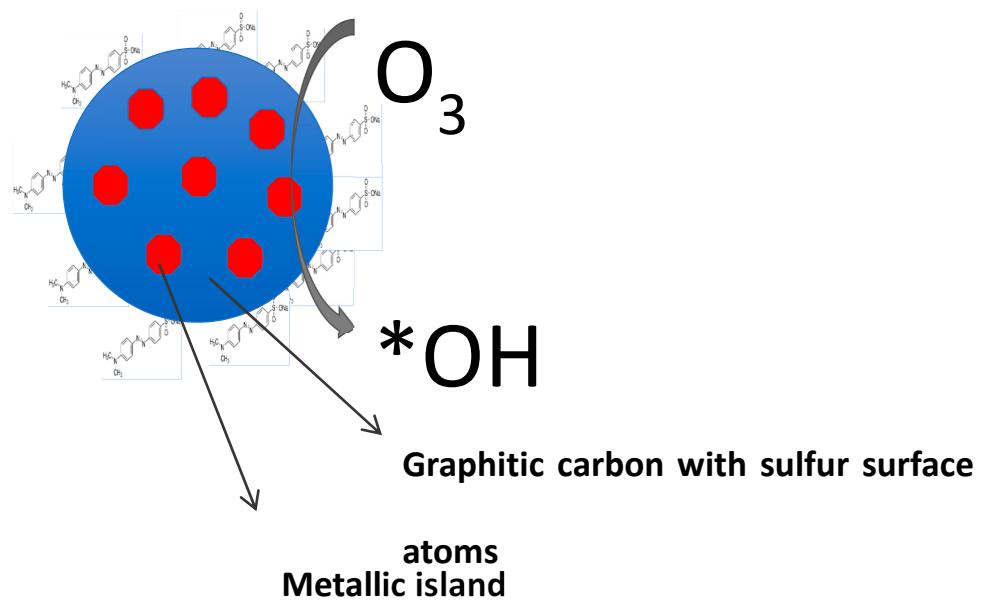


Figure S5. Scheme of the catalytic mechanism of Cu-CD.