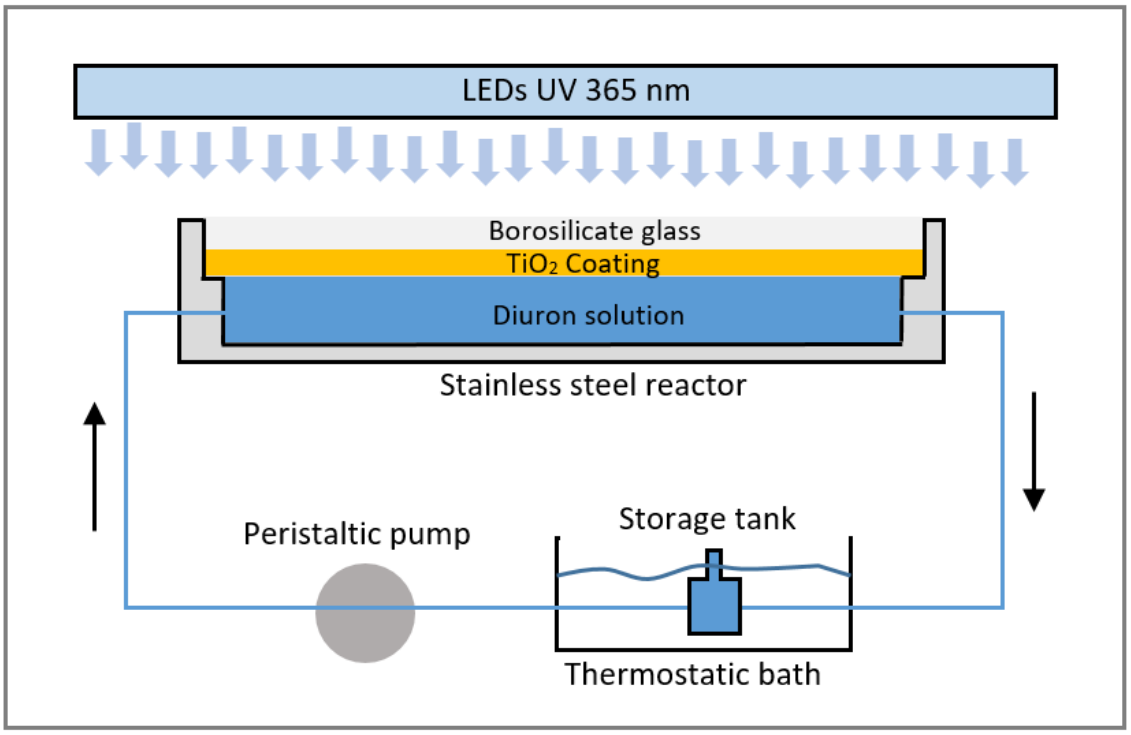


Figure S1. Schematic of the experimental setup.

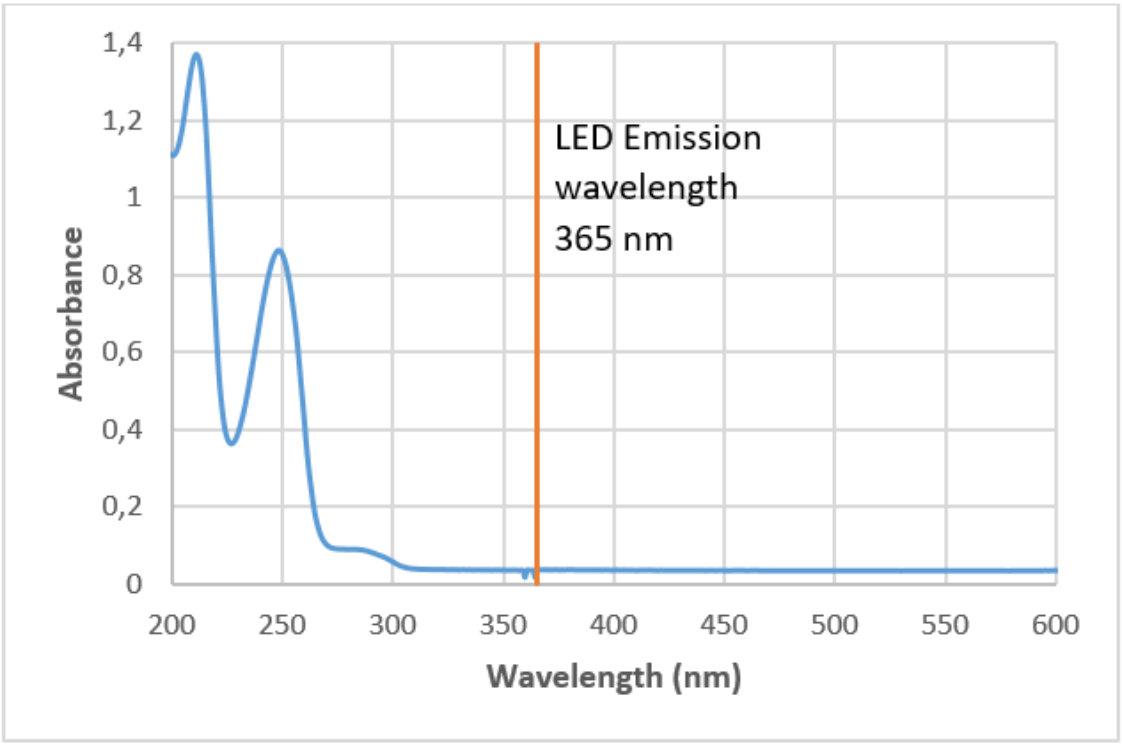


Figure S2. Absorbance spectrum of Diuron.

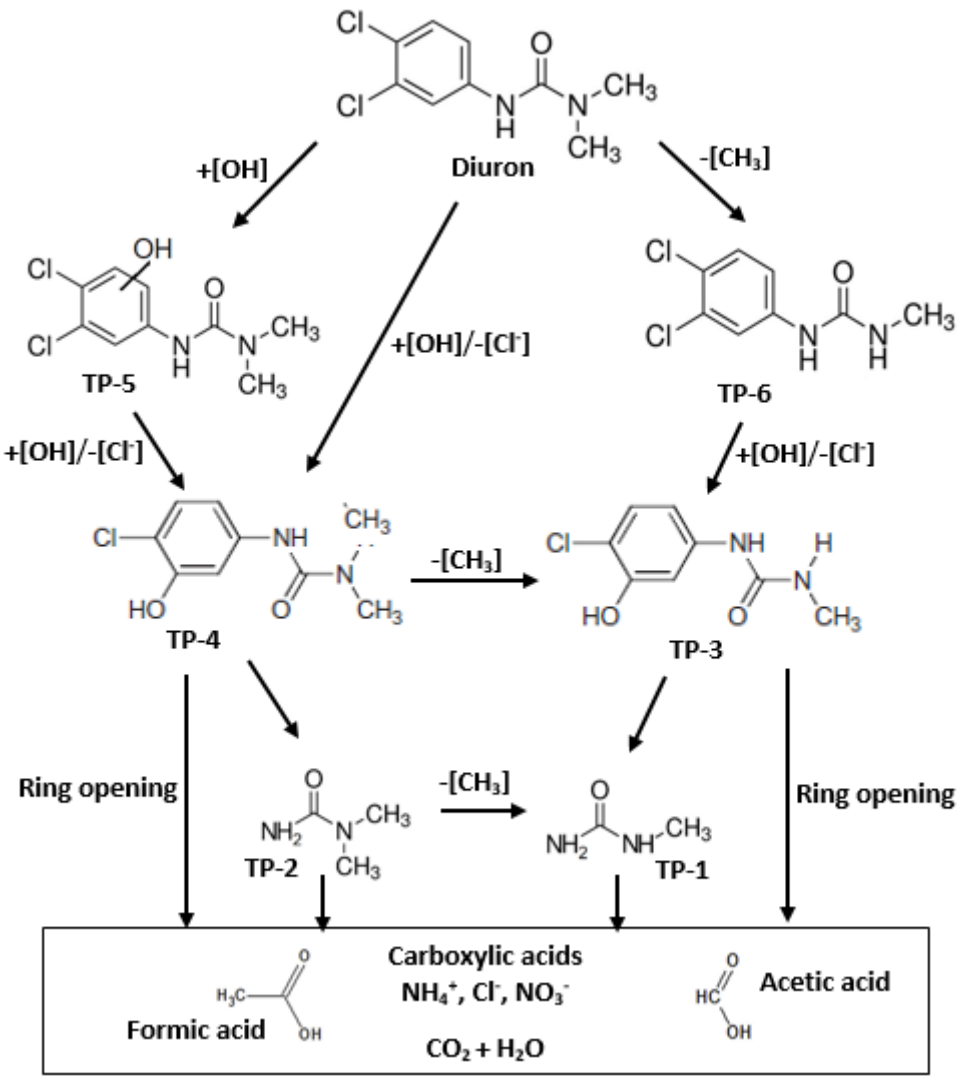


Figure S3. Proposed reaction pathways for the photocatalytic degradation of Diuron by C-12 coating: Hydroxylation (+[OH]), demethylation (-[CH_3]) and dehalogenation (-[Cl^-]). Adapted from [53,54,71].

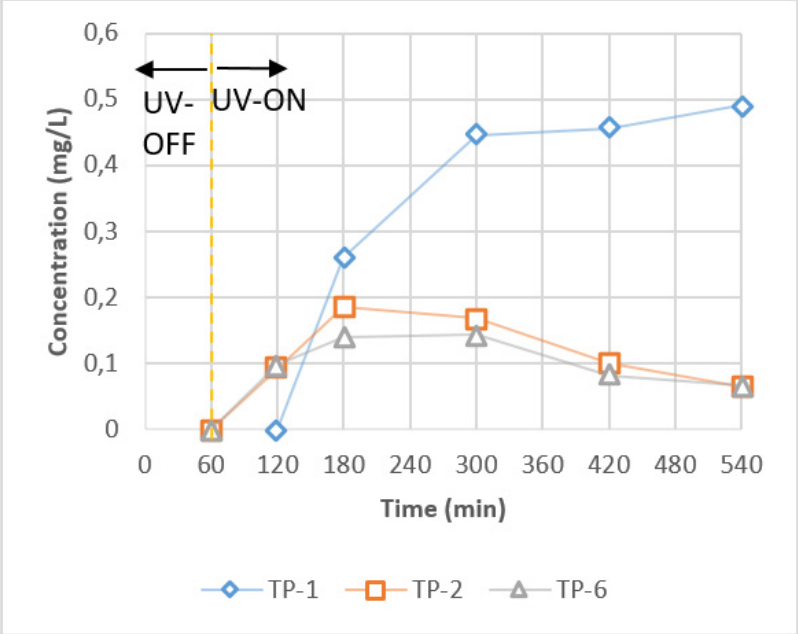


Figure S4. Kinetics of the formation and elimination of TP-1, TP-2 and TP-6 during Diuron degradation.

Table S1. Physico-chemical properties of Diuron [47].

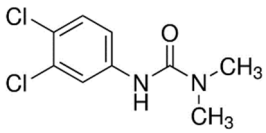
Name	**Chemical structure**	**Molecular formula**	**Molar Weight (g.mol^{-1})**	**pKa**	**Log Kow**	**Solubility (mg L^{-1})**
Diuron (3-(3,4-dichlorophenyl)-1,1-dimethyl urea)		$C_9H_{10}Cl_2N_2O$	233.09	3.7	2.6	42 (water, 20°C)

Table S2. Kinetic constants obtained for the Langmuir–Hinshelwood (L-H) model.

Model	**Parameter**	**C-3**	**C-27**	**C-7**	**C-10**	**C-12**	**P25**
L-H	k (mg L^{-1} min^{-1})	0.0898	0.1279	0.2727	0.3184	0.2355	1.5883
	K_{ad} (L mg^{-1})	0.0089	0.0086	0.0121	0.0157	0.0276	0.0685
	K_{app} (min^{-1})	0.0008	0.0011	0.0033	0.0050	0.0065	0.1088
	$\sum(C_{mod}-C_{exp})^2$	0.0455	0.0337	0.0141	0.0274	0.0166	0.0005