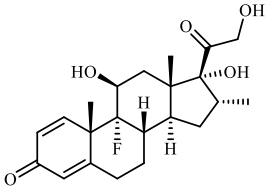
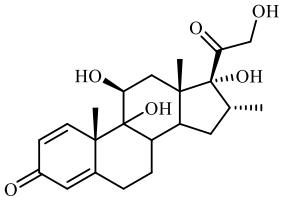
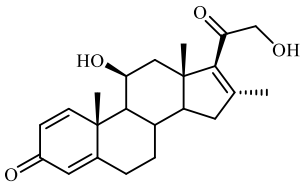
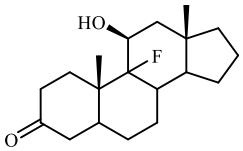
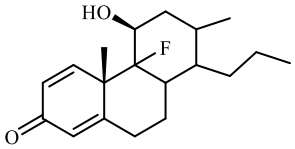
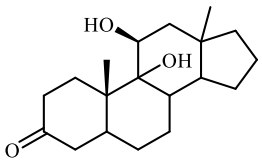
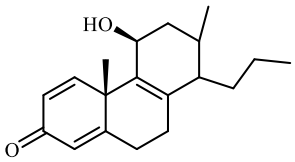
Table S1. Experiments designed with the RSM model

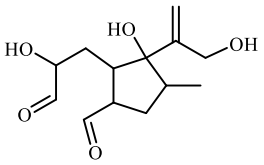
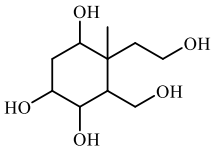
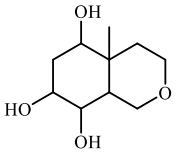
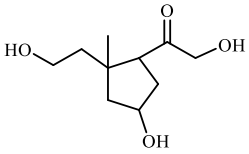
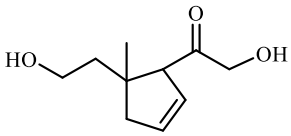
Run Order	X0 pH	X1 Oxidant (mmol.L^{-1})	X2 Initial (DEX mg.L^{-1})	X3 Time (min)
1	7.5	5	20	35
2	7.5	2.75	20	60
3	7.5	2.75	11	35
4	12	0.5	11	35
5	3	2.75	11	10
6	7.5	0.5	2	35
7	7.5	5	2	35
8	7.5	5	11	60
9	7.5	2.75	2	60
10	3	2.75	20	35
11	7.5	0.5	11	10
12	7.5	2.75	2	10
13	12	2.75	11	60
14	12	5	11	35
15	12	2.75	11	10
16	7.5	5	11	10
17	7.5	2.75	11	35
18	7.5	2.75	11	35
19	12	2.75	2	35
20	3	2.75	11	60
21	7.5	2.75	20	10
22	7.5	0.5	20	35
23	3	2.75	2	35
24	12	2.75	20	35
25	3	5	11	35
26	7.5	0.5	11	60
27	3	0.5	11	35

Table S2. ANOVA results of the reduced quadratic model for the DEX removal efficiency

Source	Sum of squares	Degrees of freedom	Mean square	F value	Probability, P (P > Fvalue)
Model	418.45	8	52.31	37.07	<0.0001
X0-pH	1.2	1	1.2	0.65	0.4364
X1-Oxidant	141.45	1	141.45	100.26	<0.0001
X2-Contaminant	12	1	122.88	87.09	<0.0001
X3-Time	35.36	1	35.36	25.06	<0.0001
BC	50.41	1	50.41	35.73	<0.0001
CD	27.04	1	27.04	19.16	0.0004
B^2	29.26	1	29.26	20.74	0.0002
C^2	18.55	1	18.55	13.15	0.0019
D^2	12.33	1	12.33	8.74	0.0085
Residual	25.40	18	1.41	-	-
Lack of fit	25.40	16	1.59	-	-
Pure error	0.00	2	0.00	-	-
Corrected total	443.85	26	-	-	-
$R^2 = 0.9498$					
adjusted $R^2 = 0.8913$					
adequate precision = 22.83					

Table S3. Identification of degradation intermediates of dexamethasone by LC-MS (positive ion mode ESI mass spectra).

Intermediates	Degradation Time (min)	m/z	Corresponding intermediates of Dexamethasone
DEX	5	392.4	
D1	5	391.4	
D2	5	357.3	
D3	15	308.3	
D4	15	307.2	
D5	15	306.3	
D6	15	286.3	

D7	45	259.1	
D8	30	221.2	
D9	30	202.3	
D10	30	202.3	
D11	30	181	
D12	30	143.2