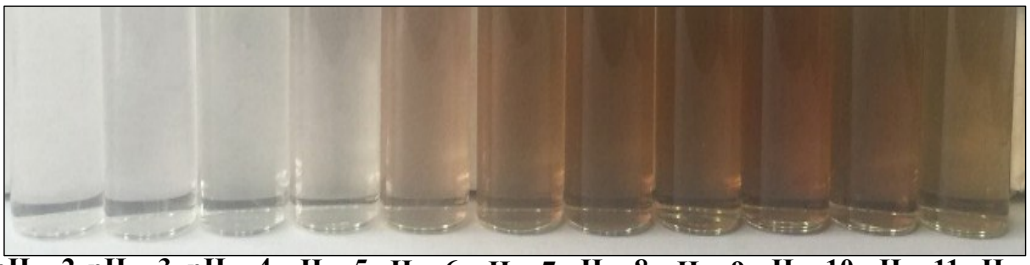
Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Figures



pH = 2 pH = 3 pH = 4 pH = 5 pH = 6 pH = 7 pH = 8 pH = 9 pH = 10 pH = 11 pH = 12

Figure S1. Color discrepancy of dieckol in different pH media.

Tables

Tables S1. Number of electrons (n) and protons (m) in dieckol oxidation process calculated from DPV parameters.

pH	Peaks	E_{pa}–pH plot	$W_{1/2}$ (mv)	α	n	m
2.0 ≤ pH ≤ 5.0	Peak 1a	E_{pa1} = 0.7583-0.0558 pH	159	0.57	1	0.5
	Peak 2a	E_{pa2} = 1.0017-0.0542 pH	211	0.52	1	0.5
5.0 < pH ≤ 8.0	Peak 1a	E_{pa1} = 0.9103-0.0860 pH	121	0.72	1	1
	Peak 2a	E_{pa2} = 1.3525-0.1155 pH	136	0.69	1	1
8.0 ≤ pH ≤ 10.0	Peak 3a	E_{pa3} = 1.0925-0.0615 pH	122	0.74	1	1

Tables S2. PA value of each hydroxyl group in radical forms of dieckol and phloroglucinol.

Compounds	PA_2 (kcal/mol)
Dieckol	
Unit A	
3-OH	320.70
5-OH	320.47
Unit B	
2-OH	310.16
4-OH	311.72
8-OH	---
Unit C	
3-OH	320.09
5-OH	320.19
Unit D	
2-OH	319.68
4-OH	315.47
6-OH	318.49
8-OH	323.95
Phloroglucino	
2-OH	329.30