## Synthesis and photopolymerization kinetics of 2-Phenyl-benzodioxole

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## **Supporting information**

The LC-MS experiment was used to study the hydrogen abstraction mechanism of BP/PhBDO system, the system was irradiated 30min by mercury lamp (10 m Wcm<sup>-2</sup>) under Nitrogen environment. The LC spectrum of BP/PhBDO was shown in Fig. S1.

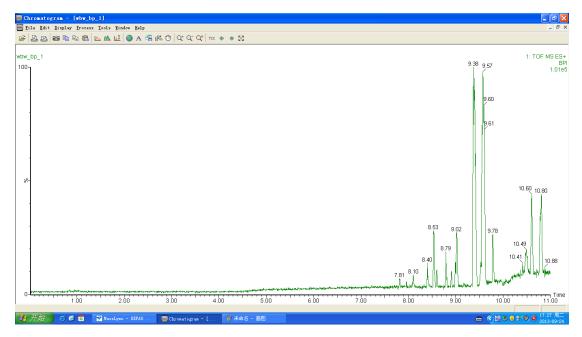


Fig. S1 The LC spectrum of BP/PhBDO after irradiation

The photolytic products of BP/PhBDO system

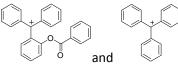
peak (9.57min), and the MS spectrum of



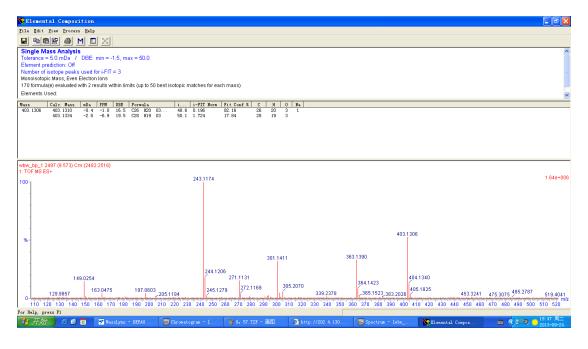
and its fragments were found at

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was shown at Fig. S2, the fragments



were shown at Fig. S3 and Fig. S4.



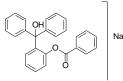
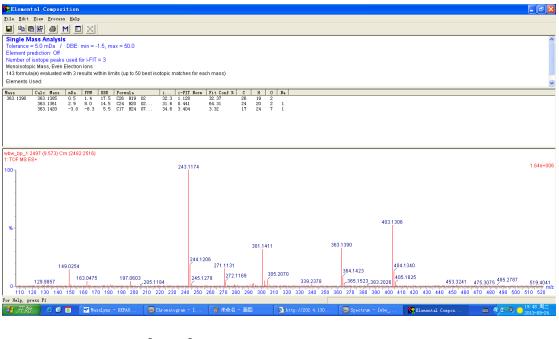


Fig. S2 MS spectrum of



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Fig. S3 MS spectrum of

 $(C_{26}H_{19}O_2^+)$ , with 363.1385 molecular weight.

 $(C_{26}H_{20}O_3Na)$ , with 403.1310 molecular weight.

105.0460

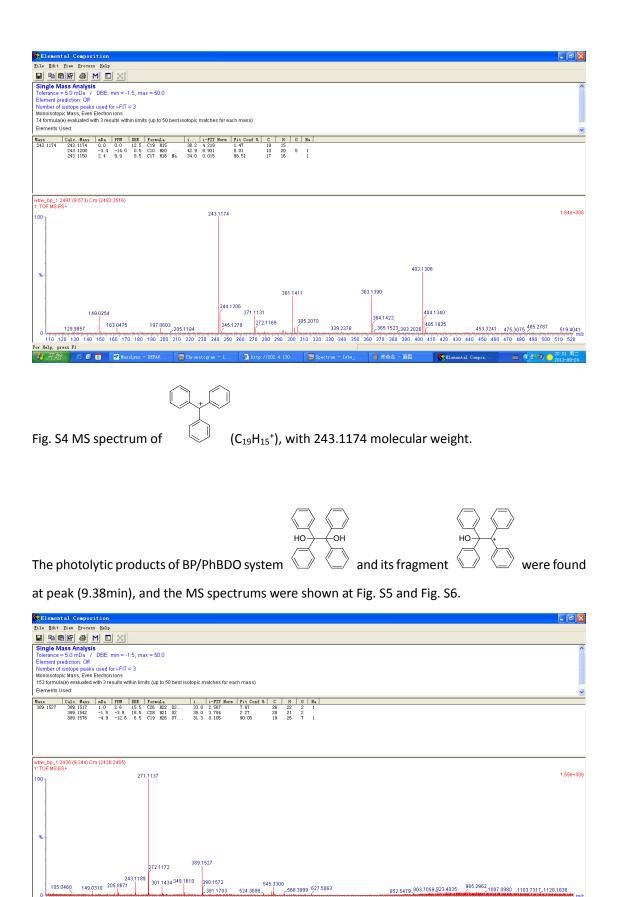
150

6 7

50

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400



852.5479 903.7059 923.4035

850

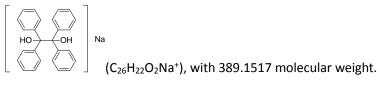
750

900

950

110

Fig. S5 MS spectrum of



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Single Mass Analysis         Tolerance = 5.0 mDa / to DBE: min = -1.5, max = 50.0         Element prediction: Off         Number of isotope peaks used for i-FIT = 3         Monoisotopic Mass, Even Electron lons         1/28 formulae/be evuldaed with 1 exults with limits (up to 50 best isotopic matches for each mass)
Elements Used:
Mass Calc. Mass NDa FFM DBE Formula i i-FII Norm Fit Conf % C H 0 Na
346.1610         349.1582         1.6         5.2         1.6         1.7         1.7         1.7         1.7         1.6         5.2         1.6         1.7         1.7         1.7         1.7         1.7         1.7         1.7         1.7         1.7         1.7         1.7         1.7         1.7         1.7         <
wbw_bb_1 2436 (9.344) Cm (2436:2465) 1: TOF MS ES+
100 271.1137 1.59e+006
272.1172 389.1527
243.1199 105.0460 149.0310 205.0671 301.1434 349.1610 300.1572 545.3300 391.1703 524.3698 568.3999 57.5063 852.5479 903.7059 923.4095 965.2962 100.7059 903.7059 923.4095 965.2962 100.705 90 100.705 9 100 105 100 100
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 $(C_{26}H_{11}O^+)$ , with 349.1592 molecular weight. Fig. S5 MS spectrum of