

## 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 ( $10 \text{ m Wcm}^{-2}$ ) under Nitrogen environment. The LC spectrum of BP/PhBDO was shown in Fig. S1.

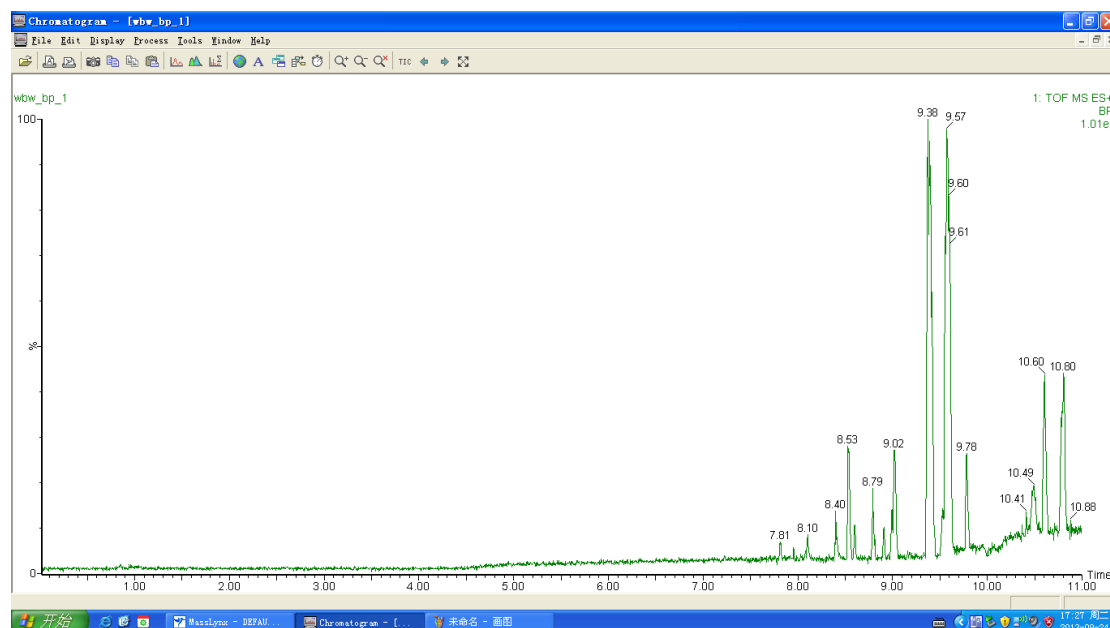
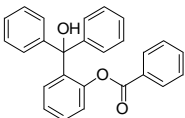
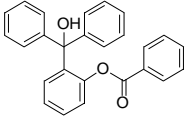
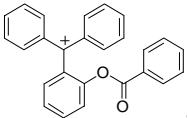
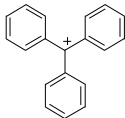


Fig. S1 The LC spectrum of BP/PhBDO after irradiation

The photolytic products of BP/PhBDO system  and its fragments were found at

peak (9.57min), and the MS spectrum of  was shown at Fig. S2, the fragments

 and  were shown at Fig. S3 and Fig. S4.

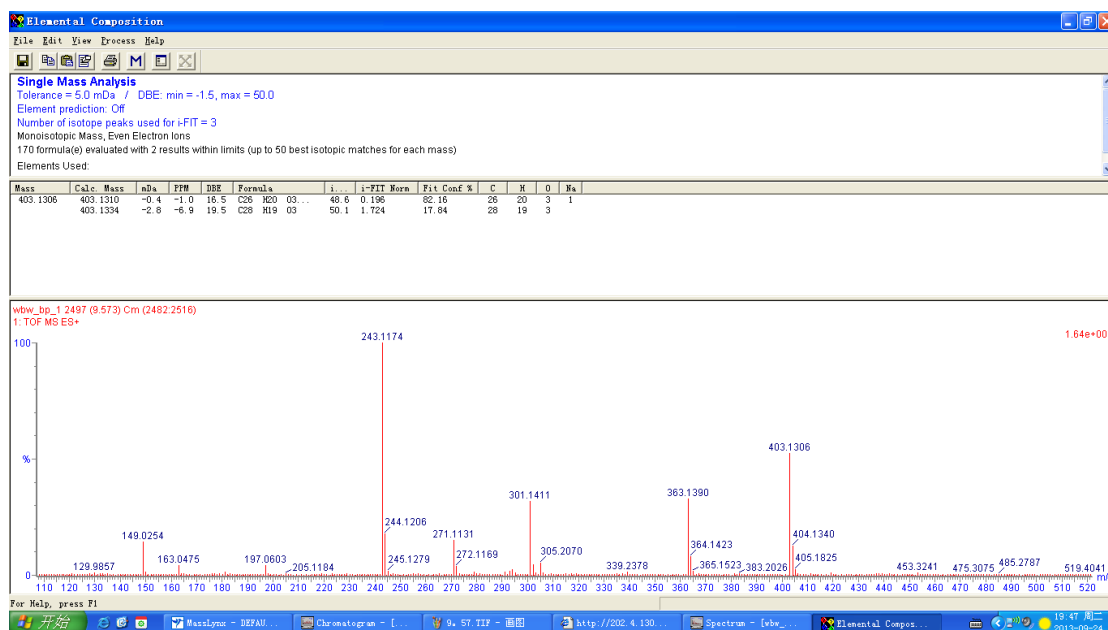
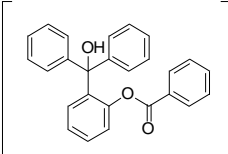


Fig. S2 MS spectrum of  (C<sub>26</sub>H<sub>20</sub>O<sub>3</sub>Na), with 403.1310 molecular weight.

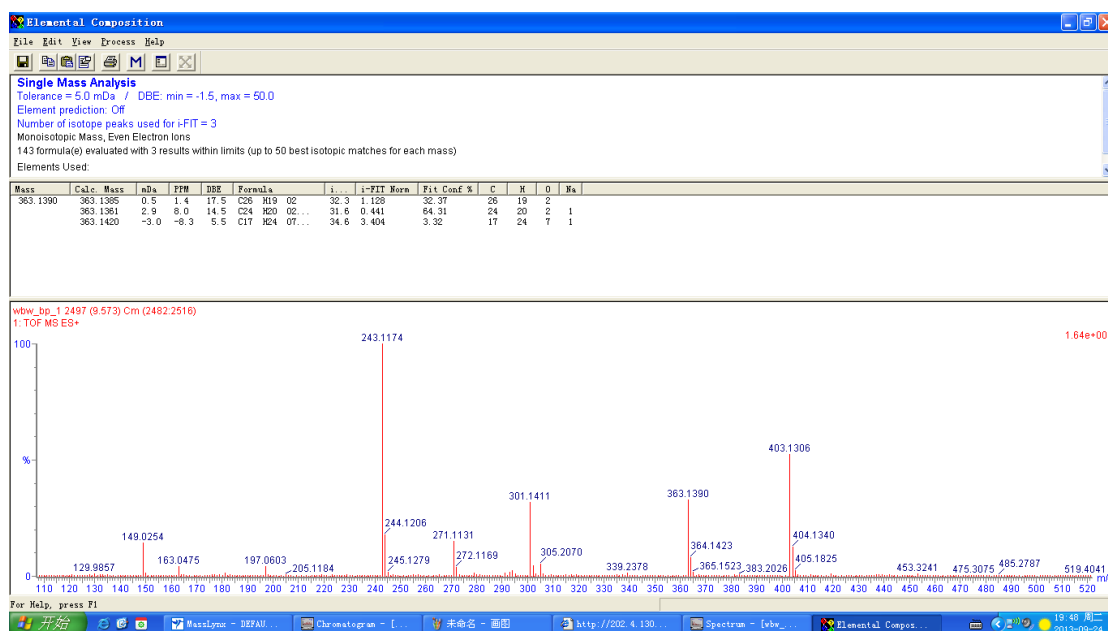
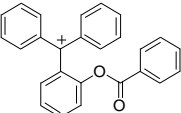


Fig. S3 MS spectrum of  (C<sub>26</sub>H<sub>19</sub>O<sub>2</sub><sup>+</sup>), with 363.1385 molecular weight.

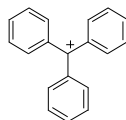
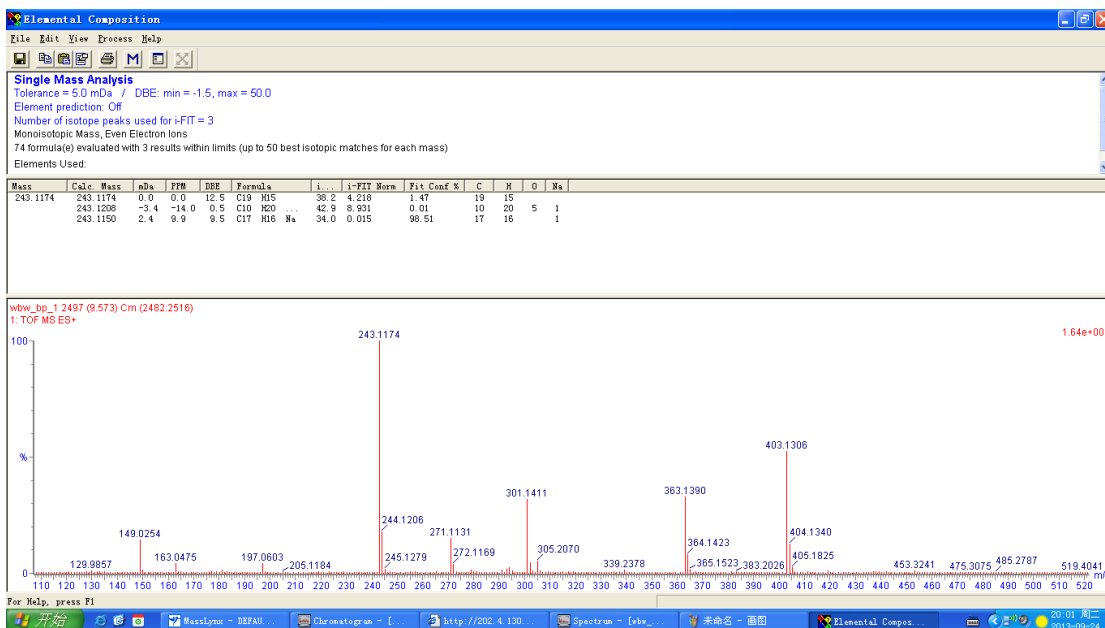
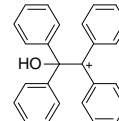
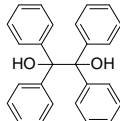


Fig. S4 MS spectrum of  $(C_{19}H_{15}^+)$ , with 243.1174 molecular weight.



The photolytic products of BP/PhBDO system and its fragment were found at peak (9.38min), and the MS spectrums were shown at Fig. S5 and Fig. S6.

