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## **Appendix A:**

Optimized structures and geometrical parameters of various species involved in the reaction of BTP with OH radicals at the B3LYP/6-311++G (d, p) theory level. Bond distances and angles are in angstroms and degree, respectively.











 $TS_1$ 

 $TS_2$ 







 $TS_{11} \\$ 



## **Appendix B:**

Optimized structures and geometrical parameters of various species involved in the subsequent degradation reaction of  $P_{1-1}$  at the B3LYP/6-311++G (d, p) theory level. Bond distances and angles are in angstroms and degree, respectively.







 $IM_8$ 



 $TS_{17}$ 

 $TS_{18} \\$ 



 $TS_{19}$ 

 $TS_{20}$ 



 $FP_1$ 

FP<sub>2</sub>

