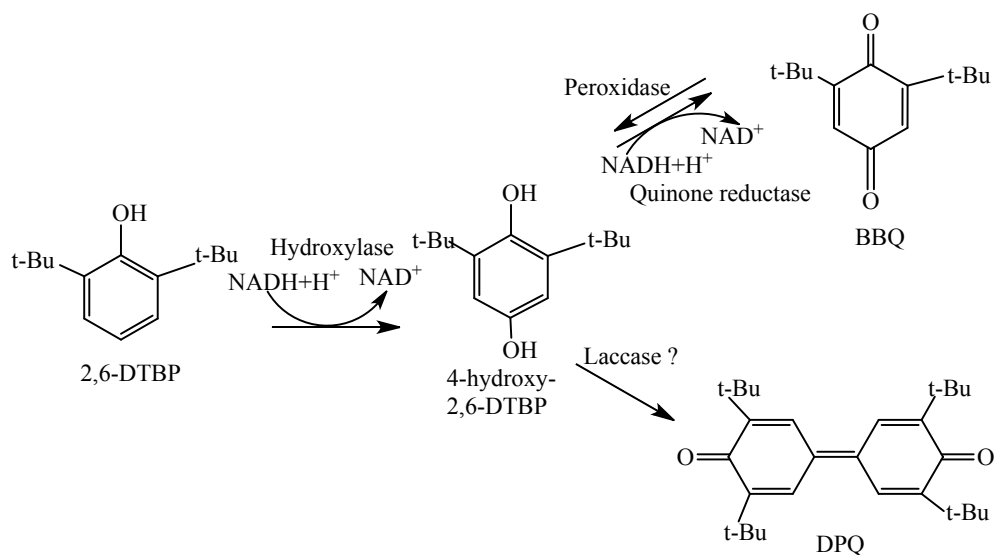


## Electronic Supplementary Information



GC-MS analysis of degradation of high concentration of 2,6-DTBP (400 mg/L) confirmed the presence of 2,6-di-*tert*-butylbenzoquinone, BBQ ( $m/z$  220) and 3,3',5,5'-tetra-*tert*-butyl-4,4'-diphenyl-1,4-benzoquinone, DPQ ( $m/z$  408), which, as quinone derivatives, are toxic for microorganism with EC<sub>50</sub> of 0.5 mg/L (Walker 1988) and inhibited the pseudomonad at concentration of 10 mg/L (Trevors and Basaraba 1980). However, quinone and related with that their derivatives, could be reduced by NAD(P)H-quinone oxidoreductase (EC 1.6.5.5.) and further processed. Under the exposure to concentration of 400 mg/L of 2,6-DTBP *P. aeruginosa* strain showed NAD(P)H-quinone oxidoreductase activity of 192 mU/mg. Both of identified metabolites- BBQ and DPQ could be reduced to hydroquinone derivatives whose toxicity is very low (Trevors and Basaraba 1980) and furthermore degraded as proposed for 2,6-DTBP.