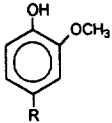


SUPPORTING INFORMATION: OL000173T

Table 1. Antioxidant activities, k_{inh} , and stoichiometric factors, n , of ortho methoxy phenols, measured in chlorobenzene solution at 30°C, under oxygen.

Structure ^a	System A: styrene ^b		System B: methyl linoleate ^b	
	k_{inh}^c $\times 10^4 \text{ M}^{-1}\text{s}^{-1}$	n^d	k_{inh} $\times 10^4 \text{ M}^{-1}\text{s}^{-1}$	n
				
2a R= CH ₃	14	2	3.1	2
2b R= CH=CH-CH ₃	14	2	4.2	2
2c R= CH=CH-COCH ₃	17	2	4.7	2
1a Curcumin	34	4	4.0	4
1a Curcumin	14 ^e , 10 ^e	3.4		
DBHA	11 ^f	2.0 ^d	11	2.0

^aAntioxidant concentrations were in the range 3.20 to 8.75 μM .

^bSystem A: 1.1 M styrene, initiated with 0.02 M AIBN. System B: 0.74 M methyl linoleate, 0.04 M AIBN.

^cCalculated from linear plots of the integrated rate expression during suppressed oxygen uptake, $\Delta[\text{O}_2]_t = -k_p/k_{inh} [\text{RH}] \ln(1-t/\tau)$, where τ is the inhibition period (seconds). The propagation rate constant, k_p , for styrene is $41 \text{ M}^{-1}\text{s}^{-1}$,^{9a} and for methyl linoleate, $62 \text{ M}^{-1}\text{s}^{-1}$ (Howard, J. A. *Adv. Free Rad. Chem.* **1972**, 4, 49). Unless noted, at least three determinations were made, with standard deviation within 10%.

^d n values are relative to DBHA, 2,6-di-*t*-butyl-4-methoxyphenol, $n=2.0$, and were determined using the R_i measured for DBHA in each experiment and the relationship $R_i = n[\text{ArOH}]/\tau$.

^eMethyl stearate, 0.18 M and 0.73 M respectively, added to styrene.

^f k_{inh} for DBHA is in agreement with the literature value.^{9a}