S3. Supplemental figures and tables for the kinetic model

Table S3. Lists of the rate constants of newly added reactions related to anthraquinone in the present study. The rate constant is given in the form of $k = AT^n e^{-E_a/RT}$. The units of the parameters are cm^3, mol, atm, s, cal/mol, K.

Reactions	Rate constants		
	A	n	Ea
Combination reactions of small oxygenated aromatic species			
Combination reactions			
$C_6H_5CHO+C_6H_5CO = A_1CHO\text{-}A_1CO\text{-}o$	1.69×10^{3}	2.61	11180
$A_1CHO\text{-}A_1CO\text{-}o = A_1CHO\text{-}CO\text{-}A_1+H$	2.19×10^{12}	0.45	33410
$A_1CO\text{-}CO\text{-}A_1 = ATQuinonyl$	2.31×10^{10}	0.39	10050
$ATQuinonyl = ANTHRQNONE+H$	1.07×10^{11}	0.80	27440
$A_1CHO\text{-}A_1CO\text{-}o = C_6H_6CHO\text{-}CO\text{-}C_6H_4$	1.49×10^{9}	0.81	48480
$C_6H_6CHO\text{-}CO\text{-}C_6H_4 = C_6H_6\text{-}COH\text{-}CO\text{-}A_1$	4.03×10^{13}	-0.80	2760
$C_6H_6\text{-}COH\text{-}CO\text{-}A_1 = C_6H_6\text{-}CO\text{-}CO\text{-}A_1 + H$	2.59×10^{11}	0.84	23460
$C_6H_6\text{-}CO\text{-}CO\text{-}A_1 => ATQ + H_2$	4.92×10^{9}	1.15	83030
$A_1CHO\text{-}A_1CO\text{-}o = ATQuinonyl\text{-}OH$	1.99×10^{7}	1.10	60270
$ATQuinonyl\text{-}OH = ATQ\text{-}OH+H$	1.39×10^{10}	1.00	25580
$ATQ\text{-}OH => ANTHRQNONE+H_2$	1.40×10^{10}	0.83	82360
$C_6H_5CO+C_6H_4CHO => A_1CHO\text{-}CO\text{-}A_1$	5.00×10^{12}	0.0	0.0
$C_6H_5CHO+C_6H_4CHO => A_1CHO\text{-}CO\text{-}A_1+H$	3.35×10^{4}	2.090	-411
H-abstraction of $A_1CHO\text{-}CO\text{-}A_1$			
$A_1CHO\text{-}CO\text{-}A_1+H = A_1CO\text{-}CO\text{-}A_1+H_2$	4.000×10^{13}	0.0	3200
$A_1CHO\text{-}CO\text{-}A_1+O = A_1CO\text{-}CO\text{-}A_1+OH$	6.000×10^{12}	0.0	1800
$A_1CHO\text{-}CO\text{-}A_1+OH = A_1CO\text{-}CO\text{-}A_1+H_2O$	7.800×10^{12}	0.0	0.0
$A_1CHO\text{-}CO\text{-}A_1+HO_2 = A_1CO\text{-}CO\text{-}A_1+H_2O_2$	3.000×10^{12}	0.0	11000
$A_1CHO\text{-}CO\text{-}A_1+CH_3 = A_1CO\text{-}CO\text{-}A_1+CH_4$	2.000×10^{-6}	5.6	1500
$A_1CHO\text{-}CO\text{-}A_1+C_2H_5 = A_1CO\text{-}CO\text{-}A_1+C_2H_6$	1.300×10^{12}	0.0	7500
$A_1CHO\text{-}CO\text{-}A_1+C_3H_5\text{-}A = A_1CO\text{-}CO\text{-}A_1+C_3H_6$	1.300×10^{12}	0.0	11500
$A_1CHO\text{-}CO\text{-}A_1+C_4H_5\text{-}I = A_1CO\text{-}CO\text{-}A_1+C_4H_6$	1.300×10^{12}	0.0	11500
$A_1CHO\text{-}CO\text{-}A_1+C_4H_5\text{-}N = A_1CO\text{-}CO\text{-}A_1+C_4H_6$	1.300×10^{12}	0.0	7500
$A_1CHO\text{-}CO\text{-}A_1+C_5H_5 = A_1CO\text{-}CO\text{-}A_1+C_5H_6$	1.300×10^{11}	0.0	11500
$A_1CHO\text{-}CO\text{-}A_1+C_6H_5 = A_1CO\text{-}CO\text{-}A_1+C_6H_6$	1.300×10^{11}	0.0	11500
$A_1CHO\text{-}CO\text{-}A_1+C_6H_5CH_2 = A_1CO\text{-}CO\text{-}A_1+C_6H_5CH_3$	1.300×10^{11}	0.0	11500
$A_1CHO\text{-}CO\text{-}A_1+C_6H_5O = A_1CO\text{-}CO\text{-}A_1+C_6H_5OH$	1.300×10^{11}	0.0	11500
H-abstraction of C_6H_5CHO			
$C_6H_5CHO +H = C_6H_4CHO+H_2$	2.80×10^{8}	1.915	14800
$C_6H_5CHO +O_2 = C_6H_4CHO +HO_2$	5.25×10^{13}	0.0	63900
$C_6H_5CHO +O = C_6H_4CHO +OH$	8.08×10^{6}	2.208	9380
$C_6H_5CHO +OH = C_6H_4CHO +H_2O$	2.628×10^{4}	2.683	733.3
$C_6H_5CHO +HO_2 = C_6H_4CHO +H_2O_2$	1.44×10^{2}	3.384	22595
$C_6H_5CHO +CH_3 = C_6H_4CHO +CH_4$	442.7	3.2885	14601
$C_6H_5CHO +CH_2O = C_6H_4CHO +HCO$	7.13×10^{4}	2.190	38
$C_6H_5CHO +C_6H_5OH = C_6H_4CHO +C_6H_5O$	4.90×10^{12}	0.0	4400
Combination reaction for 4-methylanisole fuel			
$CH_3C_6H_4CHO+C_6H_5CO = CH_3A_1CHO\text{-}CO\text{-}A_1+H$	1.685×10^{3}	2.608	11180
$C_6H_5CHO+CH_3C_6H_4CO = CH_3A_1CHO\text{-}CO\text{-}A_1+H$	1.685×10^{3}	2.608	11180
$CH_3C_6H_4CO+C_6H_4CHO => CH_3A_1CHO\text{-}CO\text{-}A_1$	5.00×10^{12}	0.0	0.0
$C_6H_5CO+CH_3C_6H_3CHO => CH_3A_1CHO\text{-}CO\text{-}A_1$	5.00×10^{12}	0.0	0.0
$CH_3C_6H_4CHO+C_6H_4CHO => CH_3A_1CHO\text{-}CO\text{-}A_1+H$	2.91×10^{4}	2.090	-411
$C_6H_5CHO+CH_3C_6H_3CHO => CH_3A_1CHO\text{-}CO\text{-}A_1+H$	2.91×10^{4}	2.090	-411
$A_1CHO\text{-}CO\text{-}A_1+CH_3 = CH_3C_6H_4CHO+C_6H_5CO$	1.2×10^{12}	0.0	15200
$CH_3A_1CHO\text{-}CO\text{-}A_1+CH_3 = CH_3C_6H_4CHO +CH_3C_6H_4CO$	1.2×10^{12}	0.0	15200
$CH_3C_6H_4CHO+CH_3C_6H_3CHO = CH_3A_1CHOCOA_1CH_3+H$	3.35×10^{4}	2.090	-411
$CH_3C_6H_4CHO+CH_3C_6H_4CO => CH_3A_1CHOCOA_1CH_3+H$	1.685×10^{3}	2.608	11180

H-abstraction of $CH_3C_6H_4CHO$			
$CH_3C_6H_4CHO + H = CH_3C_6H_3CHO + H_2$	2.24×10^{8}	1.915	14800
$CH_3C_6H_4CHO + O_2 = CH_3C_6H_3CHO + HO_2$	4.20×10^{13}	0.0	63900
$CH_3C_6H_4CHO + O = CH_3C_6H_3CHO + OH$	6.47×10^{6}	2.208	9380
$CH_3C_6H_4CHO + OH = CH_3C_6H_3CHO + H_2O$	2.103×10^{4}	2.683	733.3
$CH_3C_6H_4CHO + HO_2 = CH_3C_6H_3CHO + H_2O_2$	1.15×10^{2}	3.384	22595
$CH_3C_6H_4CHO + CH_3 = CH_3C_6H_3CHO + CH_4$	353	3.2885	14601
$CH_3C_6H_4CHO = CH_3C_6H_3CHO + H$ PLOG / 3.95×10^{-2} PLOG / 1.00 PLOG / 10	 0.90×10^{108} 4.21×10^{60} 3.67×10^{38}	 -25.81 -12.40 -6.178	 181750 148070 132000
H-abstraction of $CH_3A_1CHO\text{-}CO\text{-}A_1CH_3$			
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + H = CH_3A_1COCOA_1CH_3 + H_2$	4.000×10^{13}	0.0	3200
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + O = CH_3A_1COCOA_1CH_3 + OH$	6.000×10^{12}	0.0	1800
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + OH = CH_3A_1COCOA_1CH_3 + H_2O$	7.800×10^{12}	0.0	0.0
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + HO_2 = CH_3A_1COCOA_1CH_3 + H_2O_2$	3.000×10^{12}	0.0	11000
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + CH_3 = CH_3A_1COCOA_1CH_3 + CH_4$	2.000×10^{-6}	5.6	1500
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + C_2H_5 = CH_3A_1COCOA_1CH_3 + C_2H_6$	1.300×10^{12}	0.0	7500
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + C_3H_5\text{-}A = CH_3A_1COCOA_1CH_3 + C_3H_6$	1.300×10^{12}	0.0	11500
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + C_4H_5\text{-}I = CH_3A_1COCOA_1CH_3 + C_4H_6$	1.300×10^{12}	0.0	11500
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + C_4H_5\text{-}N = CH_3A_1COCOA_1CH_3 + C_4H_6$	1.300×10^{12}	0.0	7500
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + C_5H_5 = CH_3A_1COCOA_1CH_3 + C_5H_6$	1.300×10^{11}	0.0	11500
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + C_6H_5 = CH_3A_1COCOA_1CH_3 + C_6H_6$	1.300×10^{11}	0.0	11500
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + C_6H_5CH_2 = CH_3A_1COCOA_1CH_3 + C_6H_5CH_3$	1.300×10^{11}	0.0	11500
$CH_3A_1CHO\text{-}CO\text{-}A_1CH_3 + OC_6H_4CH_3 = CH_3A_1COCOA_1CH_3 + HOC_6H_4CH_3$	1.300×10^{11}	0.0	11500
Formation of methylanthraquinone and dimethylanthraquinone, then anthraquinone formation			
$CH_3A_1CO\text{-}CO\text{-}A_1 => CH_3ATQ910 + H$	1.07×10^{11}	0.80	27440
$CH_3A_1COCOA_1CH_3 => CH_3ATQ910CH_3 + H$	1.07×10^{11}	0.80	27440
$CH_3ATQ910CH_3 + H = CH_3ATQ910 + CH_3$	3.40×10^{6}	2.20	3974
$CH_3ATQ910 + H = ANTHRQNONE + CH_3$	1.70×10^{6}	2.20	3974
Consumption of methylanthraquinone and dimethylanthraquinone			
$CH_3ATQ910 + H => 2CO + C\text{-}C_6H_4 + C_7H_5 + H_2$	8.32×10^{13}	0.0	9480
$CH_3ATQ910CH_3 + H => 2CO + C_7H_6 + C_7H_5 + H_2$	1.66×10^{14}	0.0	9480
HACA growth reaction from small quinone			
H-abstraction of p-naphthoquinone			
$P\text{-}OA_2O + H = pNPhQH3 + H_2$	5.992×10^{7}	2.051	15604.9
$P\text{-}OA_2O + O = pNPhQH3 + OH$	1.038×10^{5}	2.601	13217.7
$P\text{-}OA_2O + OH = pNPhQH3 + H_2O$	21.54	3.511	36.7
$P\text{-}OA_2O + CH_3 = pNPhQH3 + CH_4$	20.49	3.435	12877.4
$pNPhQH3 + H = P\text{-}OA_2O$	1.0×10^{14}	0.0	0.0
HACA reactions from p-naphthoquinone to anthraquinone			
$pNPhQH3 + C_2H_2 = pNPhQH3\text{-}C_2H_2$	6.08×10^{4}	2.32	1650
$pNPhQH3\text{-}C_2H_2 = pNPhQH3\text{-}C_2H_3$	4.87×10^{3}	2.48	25700
$pNPhQH3\text{-}C_2H_3 + C_2H_2 = pNPhQH3\text{-}C_4H_5$	1.62×10^{4}	2.31	3420
$pNPhQH3\text{-}C_4H_5 = ATQ\text{-}H$	4.24×10^{11}	0.05	870
$ATQ\text{-}H = ANTHRQNONE + H$	1.73×10^{11}	0.88	32690
$P\text{-}OA_2O + C\text{-}C_6H_4 => ANTHRQNONE + C_2H_2$	967	2.53	2923
HACA reactions from p-benzoquinone to p-naphthoquinone			
$P\text{-}C_6H_4O_2 + H = P\text{-}C_6H_3O_2 + H_2$	1.010×10^{8}	2.058	13156.4
$P\text{-}C_6H_4O_2 + O = P\text{-}C_6H_3O_2 + OH$	3.559×10^{5}	2.743	9384.1
$P\text{-}C_6H_4O_2 + OH = P\text{-}C_6H_3O_2 + H_2O$	47.30	3.472	-2005.3

P-$C_6H_4O_2$+CH_3 = P-$C_6H_3O_2$+CH_4	37.63	3.440	10313.9
P-$C_6H_3O_2$+H = P-$C_6H_4O_2$	1.0×10^{14}	0.0	0.0
P-$C_6H_3O_2$+C_2H_2 = p-$C_6H_3O_2CHCH$	7.15×10^{4}	2.31	1590
p-$C_6H_3O_2CHCH$ = p-$C_6H_2O_2CHCH_2$	4.24×10^{3}	2.51	26260
p-$C_6H_2O_2CHCH_2$+C_2H_2 = p-$C_6H_2O_2C_4H_5$	2.11×10^{4}	2.31	3050
p-$C_6H_2O_2C_4H_5$ = p-NPhQ-H	3.94×10^{11}	0.06	1050
p-NPhQ-H = p-NPhQ+H	1.75×10^{11}	0.88	33140
P-$C_6H_3O_2$+C_4H_4 = p$C_6H_3O_2C_4H_4$	1.325×10^{3}	2.837	-3548.4
p$C_6H_3O_2C_4H_4$ => P-OA_2O+H	1.525×10^{-1}	3.779	38539.6
Oxidation reactions of PAHs (Anthracene)			
Anthracene oxidation to anthraquinone via anthracenol and others			
ANTHRACENE+O = ANTHRACENEOJ1+H			
PLOG / 10	6.623×10^{6}	1.800	3974.4
PLOG / 50	1.184×10^{10}	0.910	6323.3
PLOG / 500	4.417×10^{11}	0.470	8435.7
ANTHRACENE+O = ANTHRACENOL			
PLOG / 0.1	5.020×10^{28}	-4.720	13344.0
PLOG / 1.0	2.409×10^{22}	-2.560	14995.4
PLOG / 10	1.184×10^{24}	-2.820	21906.9
PLOG / 50	1.947×10^{35}	-5.890	34537.5
PLOG / 500	1.405×10^{31}	-4.730	38432.4
ANTHRACENE+OH = ANTHRACENOL+H	44.17	3.249	5590
ANTHRACENEOJ1+$C_6H_5CH_3$ = ANTHRACENOL+$C_6H_5CH_2$	5.43×10^{12}	0.0	20923
ANTHRACENOL = ANTHRACENEOJ1+H			
PLOG / 0.1	2.460×10^{91}	-21.860	137144
PLOG / 1.0	1.250×10^{67}	-14.820	122641
PLOG / 10	9.370×10^{66}	-14.780	122572
PLOG / 100	7.630×10^{14}	0.000	86900
ANTHRACENOL+O_2 = ANTHRACENEOJ1+HO_2	4.000×10^{13}	0.0	38900
ANTHRACENOL+H = ANTHRACENEOJ1+H_2	1.150×10^{14}	0.0	12400
ANTHRACENOL+O = ANTHRACENEOJ1+OH	1.300×10^{13}	0.0	2900
ANTHRACENOL+C_6H_5 = ANTHRACENEOJ1+C_6H_6	4.900×10^{12}	0.0	4400
ANTHRACENOL+OH = ANTHRACENEOJ1+H_2O	0.695×10^{8}	1.40	-960
ANTHRACENOL+CH_3 = ANTHRACENEOJ1+CH_4	0.8732	3.494	4392.4
ANTHRACENOL = RANTHRACENOL+H			
PLOG / 3.95×10^{-2}	2.25×10^{107}	-25.81	181750
PLOG / 1.00	1.05×10^{60}	-12.40	148070
PLOG / 10	9.17×10^{37}	-6.178	132000
ANTHRACENOL+OH = RANTHRACENOL+H_2O	5.257×10^{3}	2.683	733.3
ANTHRACENOL+H = RANTHRACENOL+H_2	5.60×10^{7}	1.915	14800
ANTHRACENOL+CH_3 = RANTHRACENOL+CH_4	88.3	3.2885	14601
ANTHRACENOL+O = RANTHRACENOL+OH	1.62×10^{6}	2.208	9380
ANTHRACENOL+HO_2 = RANTHRACENOL+H_2O_2	28.7	3.384	22595
ANTHRACENOL+O_2 = RANTHRACENOL+HO_2	1.05×10^{13}	0.0	63900
ANTHRACENOL+O = P-OANTHRCNOH+H			
PLOG / 10	6.623×10^{6}	1.800	3974.4
PLOG / 50	1.184×10^{10}	0.910	6323.3
PLOG / 500	4.417×10^{11}	0.470	8435.7
RANTHRACENOL+O_2 = P-OANTHRCNOH+O			
PLOG/ 0.1	9.82×10^{17}	-1.47	4530
PLOG/ 1	8.56×10^{20}	-2.27	7190
PLOG/ 10	7.94×10^{30}	-4.98	16450
PLOG/ 100	1.48×10^{44}	-8.55	30130
RANTHRACENOL+HO_2 = P-OANTHRCNOH+OH	5.000×10^{12}	0.0	0.0
RANTHRACENE1+O_2 = ANTHRQNONE+H	1.0×10^{13}	0.0	8981
ANTHRACENEOJ1+O = ANTHRQNONE+H	1.500×10^{14}	0.0	0.0
ANTHRACENEOJ1+O_2 = ANTHRQNONE+OH	6.510×10^{7}	1.30	17667.3
P-OANTHRCNOH = ANTHRQNONE+H	7.630×10^{14}	0.0	60013
Reactions involving anthrone and 1,8-dehydroxy-9-anthron			

ANTHRACENE+O = DHY18ANTHRON			
PLOG / 0.1	2.409×10^{59}	-16.060	14301.9
PLOG / 1.0	7.627×10^{56}	-14.620	15577.7
PLOG / 10	4.617×10^{42}	-9.650	13330.1
PLOG / 50	5.620×10^{37}	-7.790	13511.0
PLOG / 500	3.813×10^{43}	-9.060	20957.0
DUP			
ANTHRACENE+O = DHY18ANTHRON			
PLOG / 0.1	7.627×10^{27}	-4.970	9508.8
PLOG / 1.0	4.013×10^{24}	-3.720	9938.0
PLOG / 10	9.433×10^{35}	-6.770	18942.0
PLOG / 50	1.004×10^{28}	-4.200	18411.4
PLOG / 500	1.385×10^{10}	1.160	13228.8
DUP			
ANTHRACENE+O = ANTHRONE			
PLOG / 0.1	6.423×10^{26}	-4.71	9508.8
PLOG / 1.0	1.144×10^{28}	-4.74	13240.7
PLOG / 10	3.413×10^{45}	-9.45	28383.2
PLOG / 50	7.427×10^{40}	-10.50	40596.5
PLOG / 500	1.224×10^{38}	-6.58	42555.9
DHY18ANTHRON = ANTHRACENEOJ1+H	1.000×10^{16}	0.0	71400
DHY18ANTHRON+O_2 = ANTHRACENEOJ1+HO_2	2.000×10^{13}	0.0	20300
DHY18ANTHRON+H = ANTHRACENEOJ1+H_2	0.400×10^{8}	1.738	2540
DHY18ANTHRON+O = ANTHRACENEOJ1+OH	1.475×10^{9}	1.322	1547.1
DHY18ANTHRON+OH = ANTHRACENEOJ1+H_2O	0.450×10^{6}	2.110	-1400
DHY18ANTHRON+HO_2 = ANTHRACENEOJ1+H_2O_2	2.746	3.798	1196.3
DHY18ANTHRON+CH_3 = ANTHRACENEOJ1+CH_4	1.746	3.494	-1138.9
DHY18ANTHRON+CH_3O_2 = ANTHRACENEOJ1+CH_3O_2H	1.373	3.798	1196.3
ANTHRONE = ANTHRACENEOJ1+H	1.000×10^{16}	0.0	71400
ANTHRONE+O_2 = ANTHRACENEOJ1+HO_2	2.000×10^{13}	0.0	20300
ANTHRONE+H = ANTHRACENEOJ1+H_2	0.400×10^{8}	1.738	2540
ANTHRONE+O = ANTHRACENEOJ1+OH	1.475×10^{9}	1.322	1547.1
ANTHRONE+OH = ANTHRACENEOJ1+H_2O	0.450×10^{6}	2.110	-1400
ANTHRONE+HO_2 = ANTHRACENEOJ1+H_2O_2	2.746	3.798	1196.3
ANTHRONE+CH_3 = ANTHRACENEOJ1+CH_4	1.746	3.494	-1138.9
ANTHRONE+CH_3O_2 = ANTHRACENEOJ1+CH_3O_2H	1.373	3.798	1196.3
DHY18ANTHRON = ANTHRACENOL			
PLOG / 1.0	7.460×10^{74}	-17.738	90359
PLOG / 10	2.760×10^{55}	-12.012	80069
PLOG / 100	1.620×10^{11}	0.633	50879
RDHYANTHRACENE+O_2 = ANTHRONE+OH	3.74×10^{3}	2.3701	24100
RDHYANTHRACENE+O = ANTHRONE+H	5.69×10^{13}	-0.193	2640
DHYANTHRACENE+O = RDHYANTHRACENEO+H DUP	8.9×10^{12}	-0.15	590
DHYANTHRACENE+O = RDHYANTHRACENEO+H DUP	5.6×10^{12}	-0.06	200
RDHYANTHRACENE+O = RDHYANTHRACENEO	5.80×10^{13}	-0.02	20
RDHYANTHRACENE+HO_2 = RDHYANTHRACENEO+OH	1.37×10^{14}	0.252	5090
RDHYANTHRACENE+O_2 = RDHYANTHRACENEO+O	7.78×10^{15}	-0.7	48740
RDHYANTHRACENE+HO_2 = ANTHRONE+H_2O	1.19×10^{33}	-6.52	13400
RDHYANTHRACENEO = ANTHRONE+H	5.80×10^{32}	-6.5	21200
RDHYANTHRACENEO+O_2 = ANTHRONE+HO_2	6.0000e+10	0.0	1600
ANTHRONE+H => CO+C_7H_5+C-C_6H_4+H_2	4.48×10^{8}	1.915	14800
ANTHRONE+OH => CO+C_7H_5+C-C_6H_4+H_2O	3.12×10^{4}	2.683	733.2
Consumption reactions of anthraquinone			
ANTHRQNONE+H => 2CO+C_6H_3+C-C_6H_4+H_2	4.48×10^{8}	1.915	14800
ANTHRQNONE+OH => 2CO+C_6H_3+C-C_6H_4+H_2O	3.12×10^{4}	2.683	733.2
ANTHRQNONE+OH => 2CO+C-C_6H_4+C_6H_4OH	1.325×10^{2}	3.249	5590