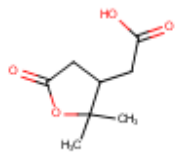
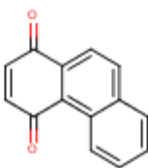
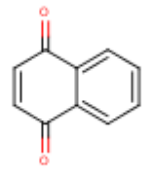
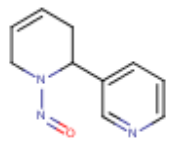
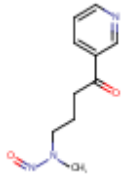
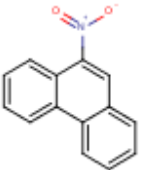
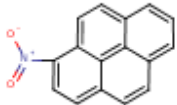
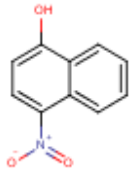
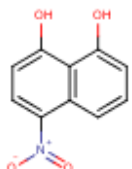
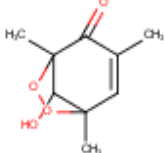
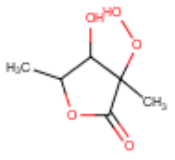
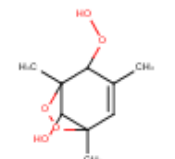
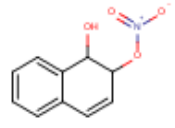
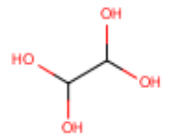


Table S10

Cluster	ID	molecule	Common name	Precursor	Measured ambient concentrations of SOA compounds (ng/m ³).	Estimated SOA <i>class</i> concentrations (ng/m ³) in ambient air.	% compound in SOA mass (w/w) in reaction chamber conditions.	Calculated ambient concentrations of SOA compounds (ng/m ³). \perp
0	mtr_11		terpenylic acid	α -pinene and other monoterpenes	6 – 15 ^{1,2}			
1	Imp_17		phenanthrene-1,4-dione	phenanthrene	0.3 – 1 ³			
	Imp_02		naphthoquinone	naphthalene	0.06 – 0.15 ³			
2	ara_05		N'-nitrosoanatabine	nicotine	0.16 – 0.18 ⁴			

	ara_02		4-(methylnitrosoamino)-1-(3-pyridyl)-1-butanone	nicotine	0.29 – 0.57 ⁴			
3	Imp_21		9-nitrophenanthrene	phenanthrene	0.003 – 0.019 ^{5,6}			
	Imp_23		1-nitro-pyrene	pyrene	0.005 – 0.016 ^{5,6}			
	Imp_10		4-nitro-naphthol	naphthalene		171 – 276 (total naphthalene SOA) ^{7§}	0.4% ⁸	~ 0.7 -1
	Imp_11			naphthalene		171 – 276 (total naphthalene SOA) ^{7§}	0.39% ⁸	~ 0.7 -1
7	alb_09		1,3,5-trimethylbenzene (TMB)		37 (total TMB SOA) ^{9*}	~ 5% ¹⁰ φ	~ 2	

8	alb_10			1,3,5-trimethylbenzene (TMB)		37 (total TMB SOA) ^{9*}	~ 2% ¹⁰ ϕ	~ 0.7
	alb_8			1,3,5-trimethylbenzene (TMB)		37 (total TMB SOA) ^{9*}	~ 55% ¹⁰ ϕ	~ 20
9_2	Imp_12			naphthalene		171 – 276 (total naphthalene SOA) ^{7§}	0.07% ⁸	~ 0.1 – 0.2
9_3	dic_01		glyoxal	dicarbonyls	0.8 – 2.7 ^{11,12}			

⊥ Calculated ambient concentrations of SOA compounds are provided when direct field observations are not available, by multiplying compound SOA mass fractions determined in reaction chamber experiments (second column from the right) with estimated SOA *class* concentrations (ng/m³) determined in ambient air by organic source apportionment methods (third column from the right).

§Total naphthalene SOA concentrations were derived using a molecular tracer method.

*Total TMB SOA concentrations were estimated from the calculated SOA formation yields expressed as µg/m³ of SOA mass per ppm of carbon monoxide (CO) (Table 4 in Yuan et al. 2013, low-NO_x conditions) multiplied by a campaign-average CO concentration of 0.55 ppm.

ϕ Total TMB SOA Compound SOA fractions (Figure 9 in the paper of Ruggeri et al. 2016) result from the application of a gas-phase VOC oxidation model (Master Chemical Mechanism v3.2) coupled to a partitioning model (SIMPOL 1).

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