

Supporting Information

Molecular Characteristics of Light Cycle Oil Hydrodesulfurization over Silica–Alumina Supported NiMo Catalysts

Min-Seok Jeon^a, Adel Al-Mutairi^b, Hoi-Kyoeng Jung^a, Ik-Phyo Hong^c, Jung-Chul An^e, Cho-I Park^a, Doo-Won Kim^d, Yukwon Jeon^e, Abdulazim Mj Marafi^b, Xiaoliang Ma^b and Joo-Il Park^{a,*}

^a Department of Chemical & Biological Engineering, Hanbat National University, Daejeon, 34158, Republic of Korea

^b Petroleum Research Center, Kuwait Institute for Scientific Research, P.O. Box: 24885, Safat 13109, Kuwait

^c Material Research Division, Research Institute of Industrial Science & Technology (RIST), Pohang, 37673, Republic of Korea

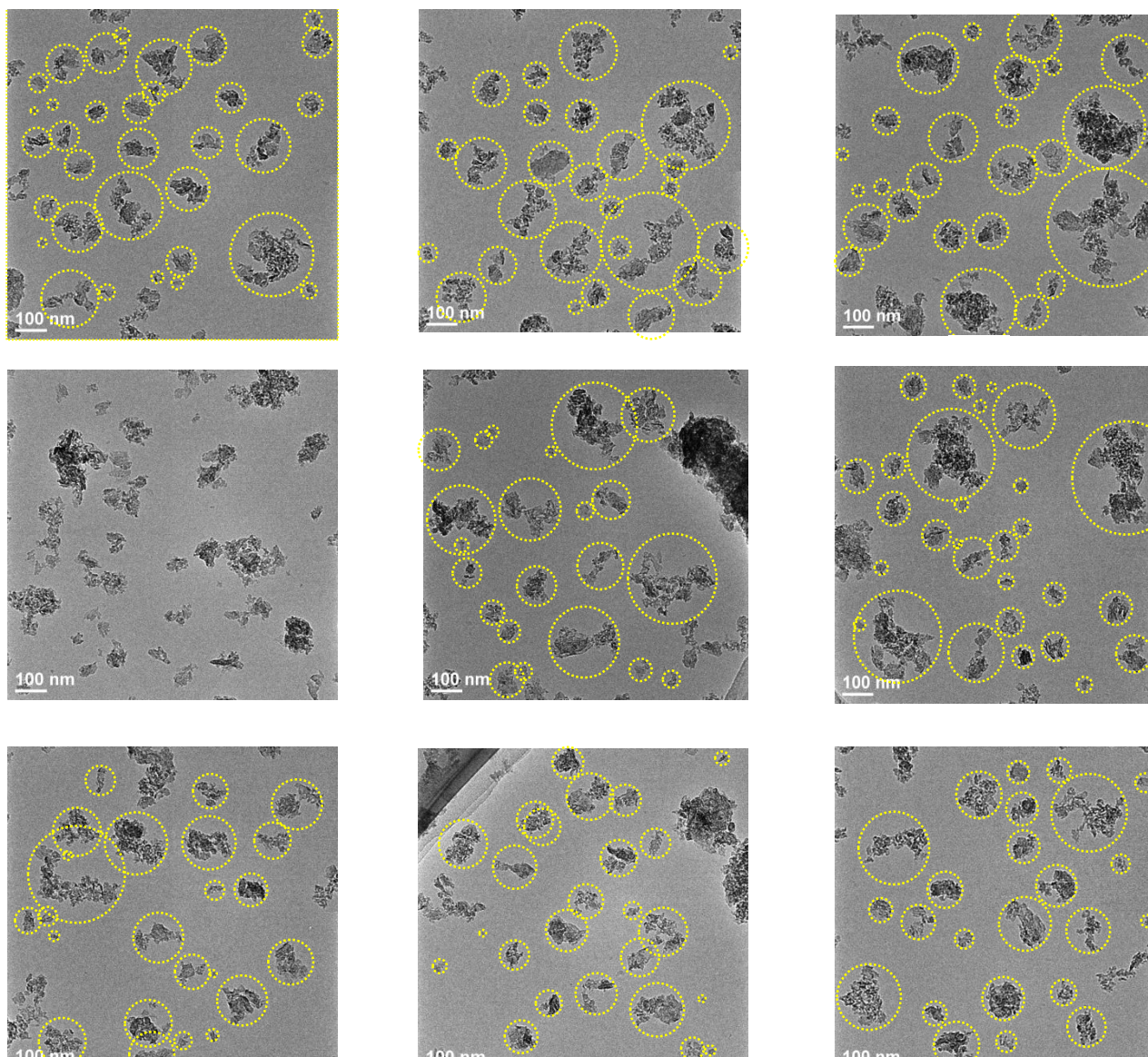
^d Institute of Advanced Composite Materials, Korea Institute of Science and Technology, Jeonbuk 55324, Republic of Korea

^e Department of Environmental Engineering, Yonsei University, Wonju 26493, Republic of Korea

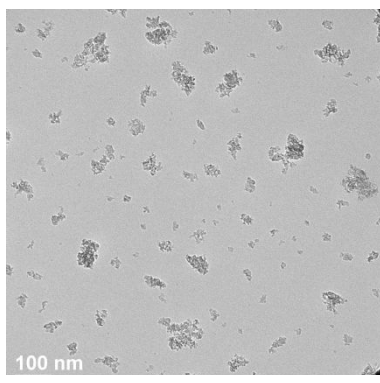
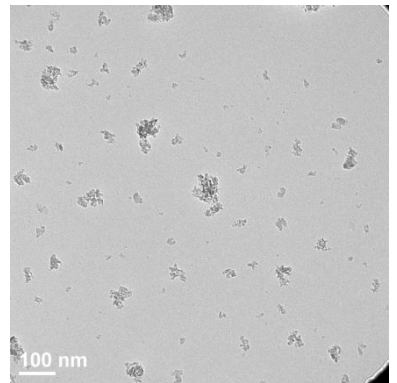
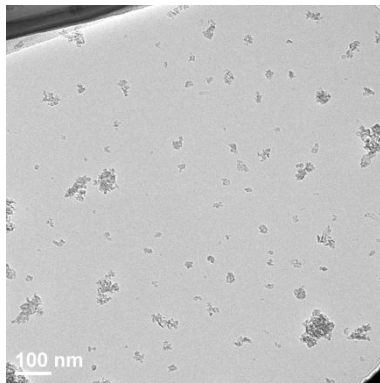
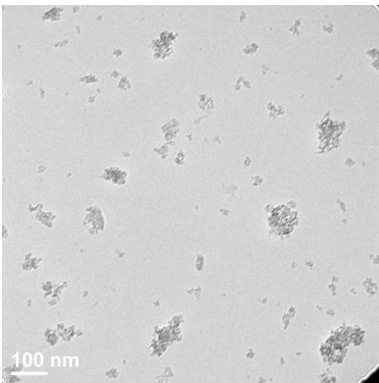
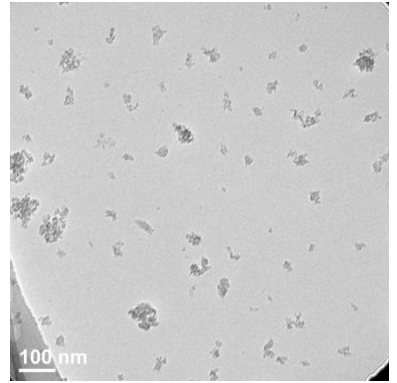
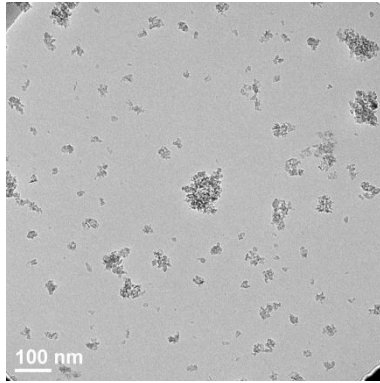
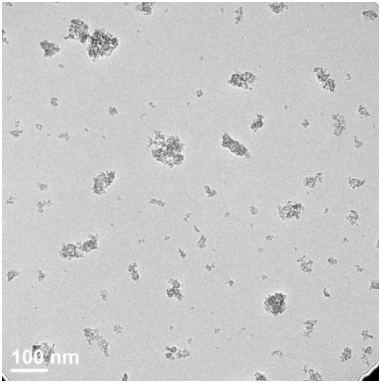
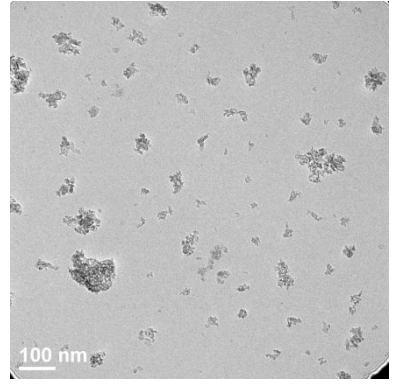
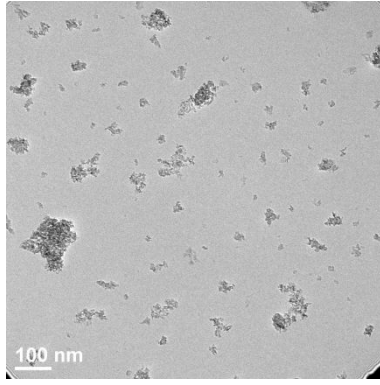
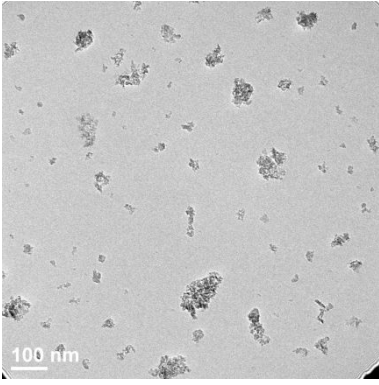
* Corresponding authors:

FAX: +82 42 8211530, E-mail address: jipark94@hanbat.ac.kr (J. -I Park)

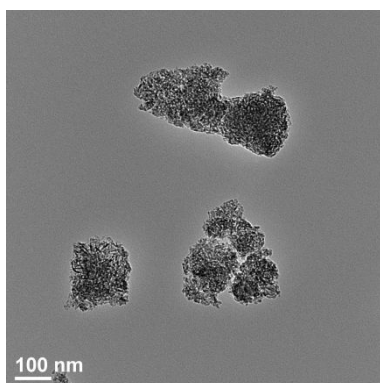
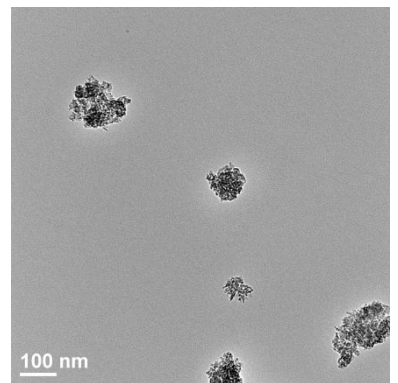
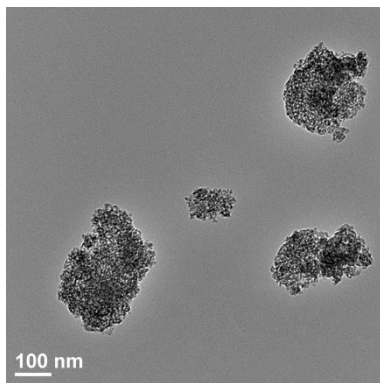
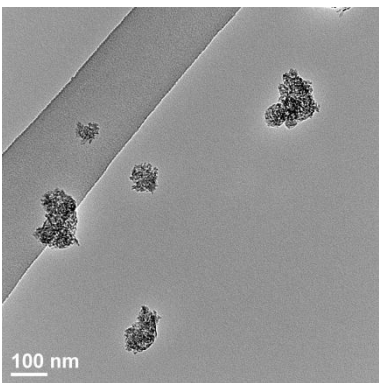
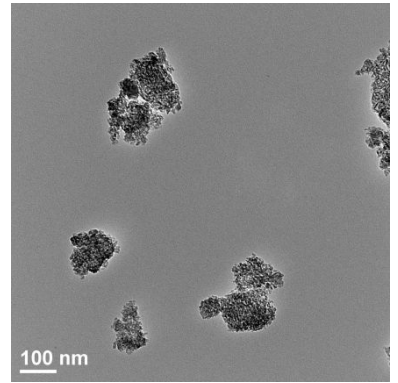
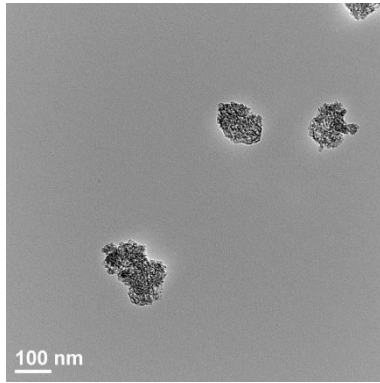
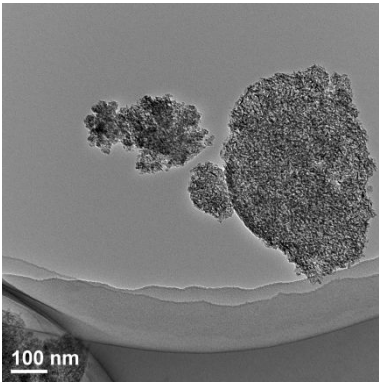
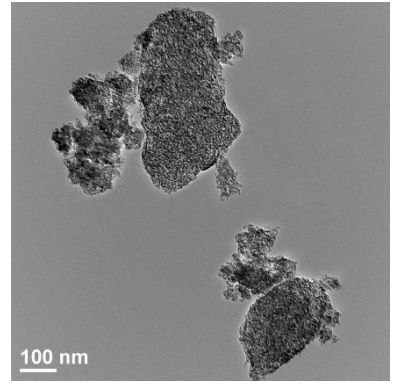
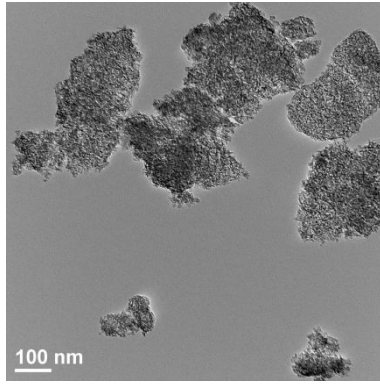
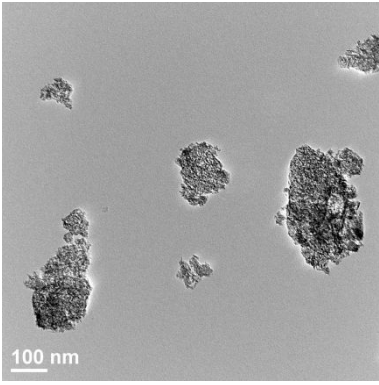
Figure S1. HR-TEM Images on Particles of (a) SA-1, (b) SA-2, and (c) SA-3



(a) SA-1

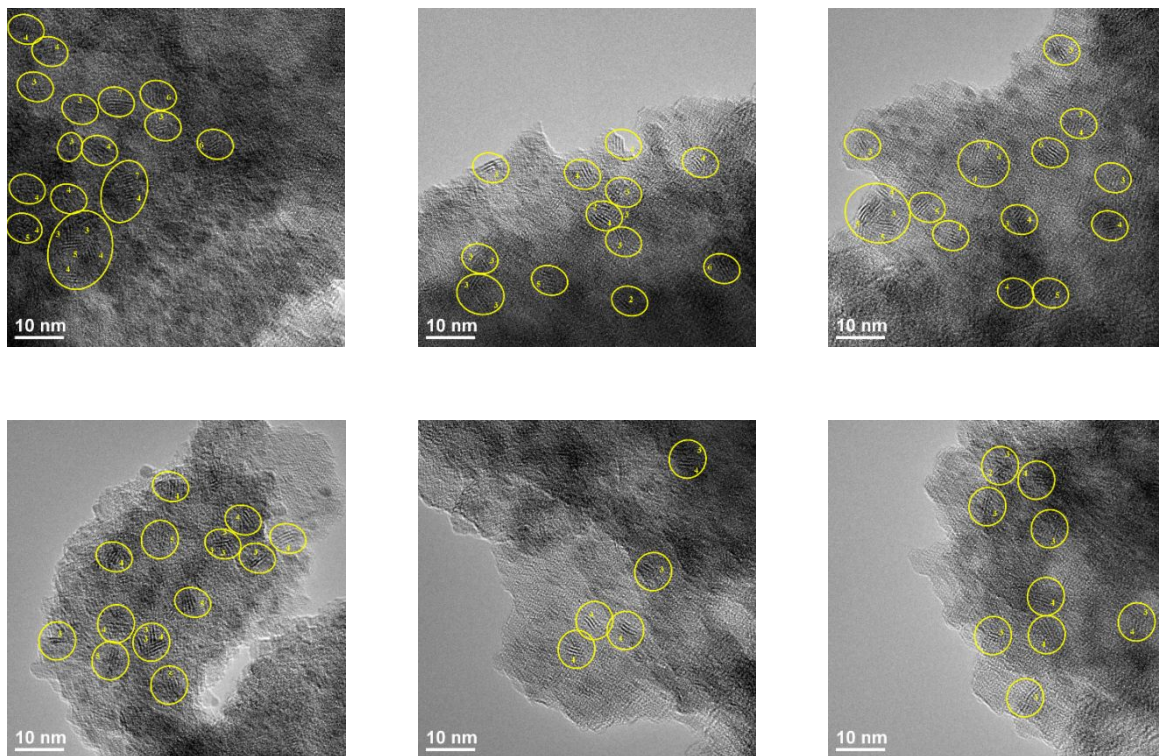


(b) SA-2

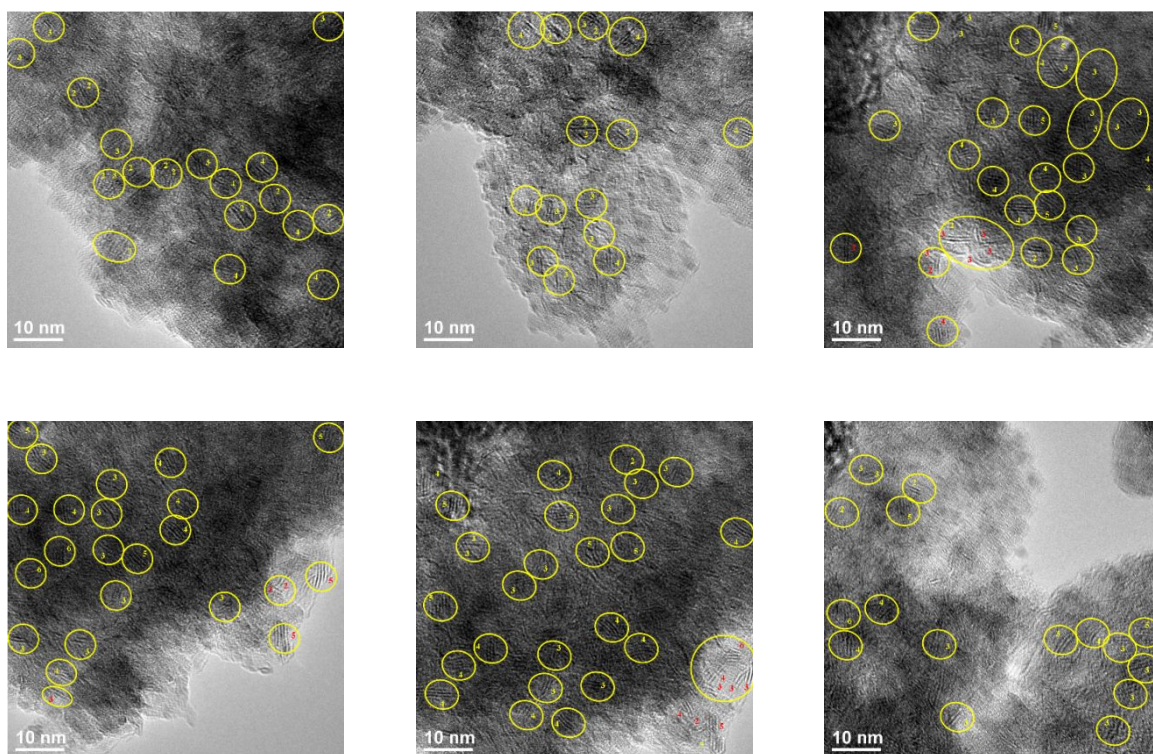


(c) SA-3

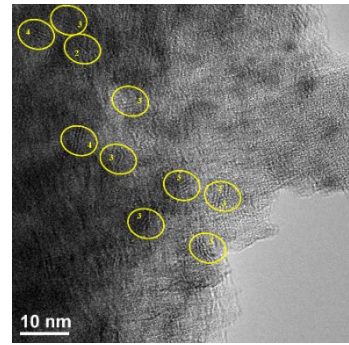
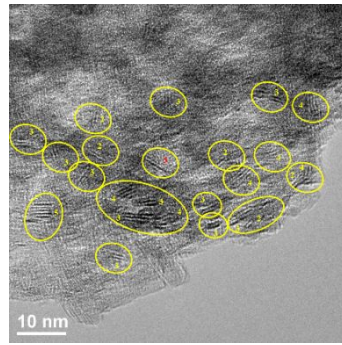
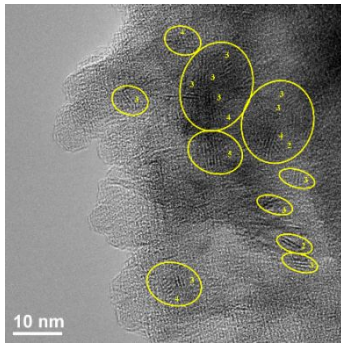
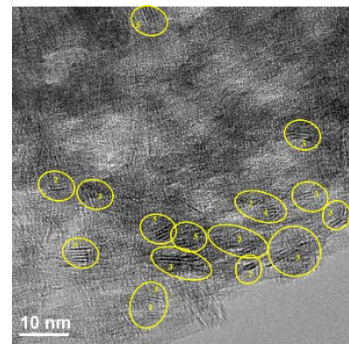
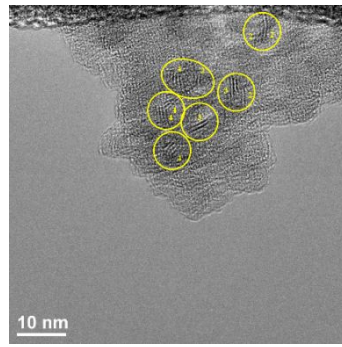
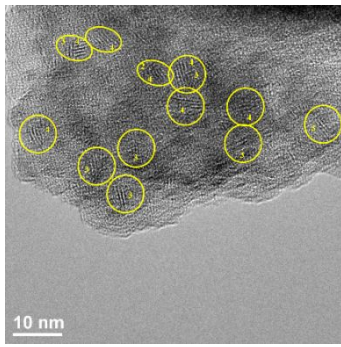
Figure S2. HR-TEM Images on the Mo Layers of the Catalysts: (a) NM/SA-1, (b) NM/SA-2, and NM/SA-3



(a) NM/SA-1



(b) NM/SA-2



(c) NM/SA-3

Figure S3. XPS Results of the Catalysts

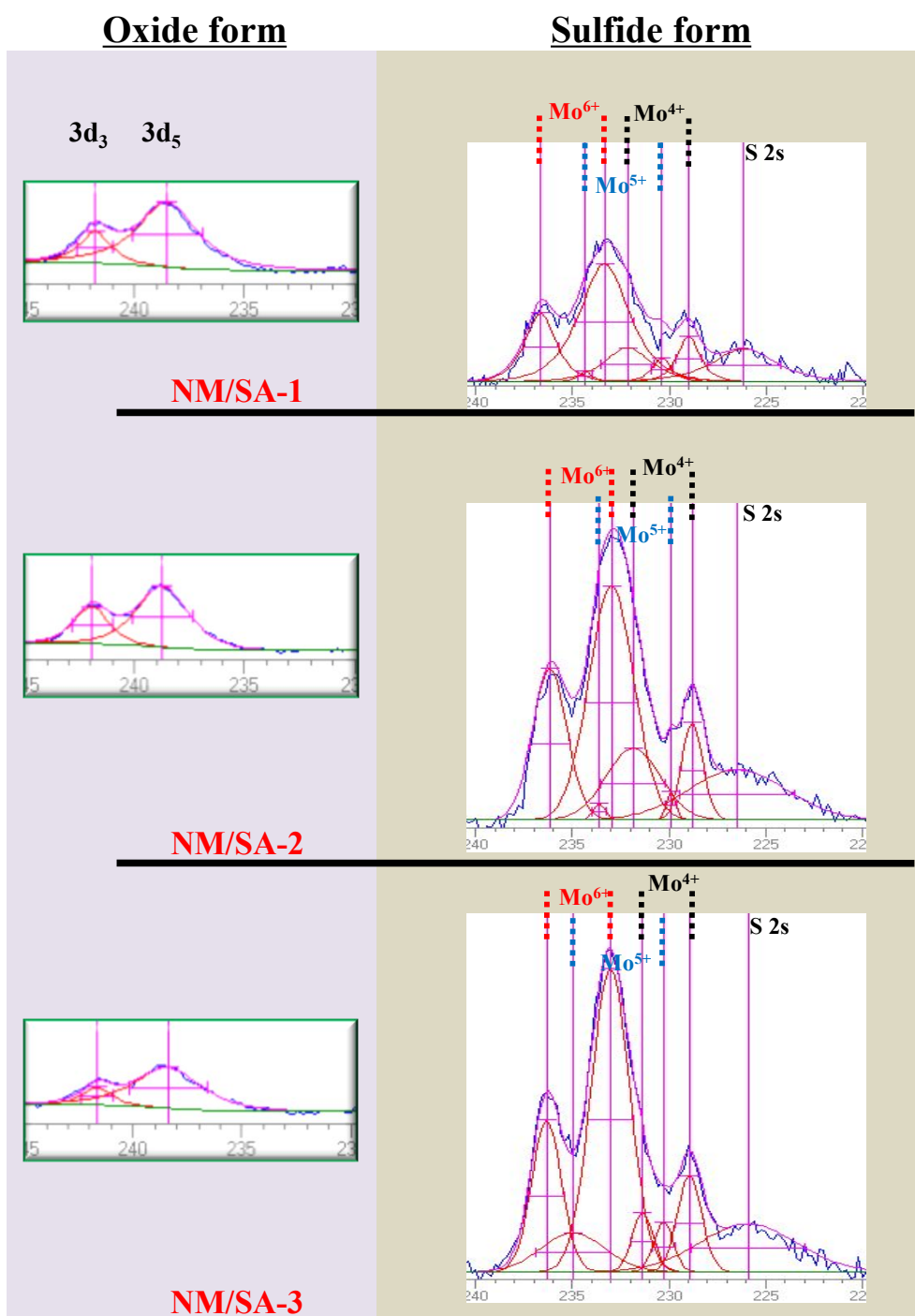


Table S1. Raw data of LCO using D GC-Tof MS

Compound Name	%	Formula	C	H	Ring No.	Saturated (SA) / Unsaturated (USA)	GROUP
(1H)Pyrrole-3-carbonitrile, 2-methyl-	0.002658467	C6H6N2	6	6	1	USA	N
Pentadecane, 2-methyl-2-phenyl-	0.010302572	C22H38	22	38	1	USA	HC
(2R,4aS,5S,8aS)-2,5-Dipentyldecahydroquinoline	0.001202808	C19H37N	19	37	2	SA	N
(4R,6S,9aR)-4,6-Di(pent-4-en-1-yl)octahydro-1H-quinolizine	0.003723367	C19H33N	19	33	2	SA	N
(5S,8R,8aS)-8-(But-3-en-1-yl)-5-((Z)-pent-2-en-4-yn-1-yl)octahydroindolizine	0.003194466	C17H25N	17	25	2	SA	N
1,1'-Biphenyl, 2-(1-azido-1-methylethyl)-	0.017431511	C15H15N3	15	15	2	USA	N
Benzene, 1,1'-(1,1,10,10-tetramethyl-1,10-decanediyl)bis[3,4-dimethyl-	0.001403841	C30H46	30	46	2	USA	HC
1H-Indene, 1-hexadecyl-2,3-dihydro-	0.002151184	C25H42	25	42	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-1,6-dimethyl-4-(1-methylethyl)-, (1S-cis)-	0.004567546	C15H22	15	22	2	USA	HC
Naphthalene, 1-hexyl-	0.155903729	C16H20	16	20	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-5-methyl-1-(1-methylethyl)-	0.003102425	C14H20	14	20	2	USA	HC
1,1'-Biphenyl, 2,2',5,5'-tetramethyl-	0.239577778	C16H18	16	18	2	USA	HC
6-Isopropyl-1,4-dimethylnaphthalene	0.019523751	C15H18	15	18	2	USA	HC
1,2,3,3a,4,5,5a,6,7,8-Decahydropyrene	0.052149812	C16H20	16	20	4	USA	HC
1,2,3,3a,8,9,9a,9b-Octahydrocyclopenta[def]phenanthrene	0.269942827	C15H18	15	18	4	USA	HC
Anthracene, 1,2,3,4-tetrahydro-9-propyl-	0.089009906	C17H20	17	20	3	USA	HC
Anthracene, 9-ethyl-1,2,3,4,5,6-hexahydro-	0.084345398	C16H20	16	20	3	USA	HC
1,3,6,8-Tetramethylantracene	0.097068193	C18H18	18	18	3	USA	HC
2-Isopropyl-10-methylphenanthrene	0.039920304	C18H18	18	18	3	USA	HC
Naphthalene, 1,6-dimethyl-4-(1-methylethyl)-	0.165582936	C15H18	15	18	2	USA	HC
1,4-Dimethyl-2-cyclopentylbenzene	0.004201615	C13H18	13	18	2	USA	HC
Anthracene, 2-(1,1-dimethylethyl)-	0.011539838	C18H18	18	18	3	USA	HC
Phenanthrene, 2,4,5,7-tetramethyl-	0.276656767	C18H18	18	18	3	USA	HC
1,5-Heptadiene, (E)-	0.013103311	C7H12	7	12	0		HC
1,5-Hexadiene, 2-methyl-	0.002464857	C7H12	7	12	0		HC
1,7-Dimethyl-4-(1-methylethyl)cyclodecane	0.165558456	C15H30	15	30	1	SA	HC
11H-Benzo[b]fluorene	0.051949307	C17H12	17	12	4	USA	HC
Anthracene, 9-ethyl-9,10-dihydro-9-methyl-	0.414620211	C17H18	17	18	3	USA	HC
1H-1,2,3-Triazol-1-amine, 4,5-dimethyl-N-[(4-methylphenyl)methylene]-	0.002995902	C12H14N4	12	14	2	USA	N
1H-2,3-Benzodiazepine, 1-methyl-4-phenyl-	0.247011092	C16H14N2	16	14	3	USA	N
1H-Benzimidazole, 1-(2-phenylethenyl)-, (E)-	0.004942224	C15H12N2	15	12	3	USA	N
1-Hexene, 3,5-dimethyl-	0.009925839	C8H16	8	16	0		HC
1,2,3-Triphenyl-3-isopropyl-cyclopropene	0.001463171	C23H16	23	16	3	USA	HC
Indan, 1,1,6,7-tetramethyl-	0.006858453	C13H18	13	18	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-1,1,6-trimethyl-	0.015789213	C13H18	13	18	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-1-propyl-	0.010957965	C13H18	13	18	2	USA	HC
1,4-Dimethyl-2-phenyl-naphthalene	0.03493806	C18H16	18	16	3	USA	HC
Tetracyclo[4.2.1.0(3,7).0(2,9)]non-4-ene, 4-butyl-	0.002511284	C13H18	13	18	2	USA	HC
1,1'-Biphenyl, 3-(1-methylethyl)-	0.415877815	C15H16	15	16	2	USA	HC
1,1'-Biphenyl, 4-(1-methylethyl)-	0.374302318	C15H16	15	16	2	USA	HC
Benzene, 1-methyl-3-[(4-methylphenyl)methyl]-	0.126330353	C15H16	15	16	2	USA	HC
Benzene, 2,4-dimethyl-1-(phenylmethyl)-	0.813756285	C15H16	15	16	2	USA	HC
1,4,5,8-Tetramethylnaphthalene	0.072482968	C14H16	14	16	2	USA	HC
2,2'-Dimethylbiphenyl	0.509705732	C14H16	14	16	2	USA	HC
Chamazulene	0.349466421	C14H16	14	16	2	USA	HC
Naphthalene, 1,2,3,4-tetramethyl-	0.530707464	C14H16	14	16	2	USA	HC

1H-Purine-6-carbonitrile	0.004705622	C6H3N5	6	3	2	USA	N
1H-Pyrrolo[2,3-b]pyridine, 2-(1-methylethyl)-	0.002015657	C10H12N2	10	12	2	USA	N
Benzene, pentadecyl-	0.074512792	C21H36	21	36	1	USA	HC
1-Methyldibenzothiophene	0.049670756	C13H10S	13	10	3	USA	S
1-Methylphenanthro[4,5-bcd]thiophene	0.029969894	C15H10S	15	10	4	USA	S
1-Methyl-prop-2-enyl dithiopropanoate	0.006712236	C7H12S2	7	12	0		S
1-Nonene, 4,6,8-trimethyl-	0.219665668	C12H24	12	24	0		HC
Pentadecane, 2-phenyl-	0.077958029	C21H36	21	36	1	USA	HC
1-Propene-2-thiol, 1,1-diphenyl-	10.07669474	C15H14S	15	14	2	USA	S
2-(Cyclopent-1-enyl)-thiophene	0.001091905	C9H10S	9	10	2	USA	S
Naphthalene, 1-methyl-7-(1-methylethyl)-	0.145178451	C14H16	14	16	2	USA	HC
2,4,6,8-Tetramethyl-1-undecene	0.010372826	C15H30	15	30	0		HC
2,5-Dimethyl-4-(4-aminophenyl)pyridine	0.001981378	C13H14N2	13	14	2	USA	N
2,7-Dimethyldibenzothiophene	9.631676383	C14H12S	14	12	3	USA	S
2-Benzyl-8-methyl-1H-piperidino[4,3-b]indole	0.001489373	C19H20N2	19	20	4	USA	N
Naphthalene, 2-methyl-1-propyl-	0.120027046	C14H16	14	16	2	USA	HC
1H-Indene, 3-ethenyl-2,3-dihydro-1,1-dimethyl-	0.004182169	C13H16	13	16	2	USA	HC
2H-Naphtho[1,8-bc]thiophene, 2-methyl-	0.008968577	C12H10S	12	10	3	USA	S
1,4-Dimethyl-6-phenyl-naphthalene	0.032738498	C18H16	18	16	3	USA	HC
Naphthalene, 1,2-dihydro-4,5,7-trimethyl-	0.002850552	C13H16	13	16	2	USA	HC
2-methyltetracosane	0.286283983	C25H52	25	52	0		HC
3,3-Diphenyl-5-methyl-3H-pyrazole	0.280702228	C16H14N2	16	14	3	USA	N
3,7-Dimethyldibenzothiophene	0.063788628	C14H12S	14	12	3	USA	S
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-	0.025134694	C12H16	12	16	2	USA	HC
3-Methyl-1,2-diazirine	0.016932243	C2H4N2	2	4	1	USA	N
3-Methylbenzothiophene	0.052438359	C9H8S	9	8	2	USA	S
1H-Indene, 2,3-dihydro-1,1,5-trimethyl-	0.019893176	C12H16	12	16	2	USA	HC
1H-Indene, 2,3-dihydro-1,5,7-trimethyl-	0.006781989	C12H16	12	16	2	USA	HC
4H-Benz[de]anthracene, 5,6-dihydro-	0.076802655	C17H14	17	14	4	USA	HC
4-Methylcarbazole	0.110904282	C13H11N	13	11	3	USA	N
4-Methylnaphtho[1,2-b]thiophene	0.340425889	C13H10S	13	10	3	USA	S
4-Nonene, 3-methyl-, (Z)-	0.01025573	C10H20	10	20	0		HC
4-Pyridazinamine	0.001578104	C4H5N3	4	5	1	USA	N
5-(o-Tolyl)-1H-tetrazole	0.002110778	C8H8N4	8	8	2	USA	N
5-Cyano-1-pentene	0.00104458	C6H9N	6	9	0		N
5-Ethylbenzo[b]thiophene	0.033771603	C10H10S	10	10	2	USA	S
Benzene, tetradecyl-	0.080152271	C20H34	20	34	1	USA	HC
Naphthalene, 5-ethyl-1,2,3,4-tetrahydro-	0.047987205	C12H16	12	16	2	USA	HC
6-Methyl-4-phenyl-quinazoline	0.028120874	C15H12N2	15	12	3	USA	N
7b-Phenyl-2a,7b-dihydro-3H-cyclobuta[a]indene	0.142509151	C17H14	17	14	4	USA	HC
7H-Benzanthrene	0.00386252	C17H12	17	12	4	USA	HC
7H-Benzo[c]fluorene	0.292919021	C17H12	17	12	4	USA	HC
8,9-Dihydrocyclopenta[def]phenanthrene	0.015246908	C15H12	15	12	4	USA	HC
Bicyclo[3.1.0]hex-2-ene, 5,6-diphenyl-	0.022379178	C18H16	18	16	3	USA	HC
1-Ethyl-2-methylphenanthrene	0.016010926	C17H16	17	16	3	USA	HC
9H-Carbazole, 2-methyl-	0.269232076	C13H11N	13	11	3	USA	N
9-Ethyl-10-methylanthracene	1.219596305	C17H16	17	16	3	USA	HC
Phenanthrene, 2,3,5-trimethyl-	3.839347293	C17H16	17	16	3	USA	HC

1,2,5,6-Tetramethylacenaphthylene	2.738007213	C16H18	16	16	3	USA	HC
Dibenzo[a,c]cyclooctene, 5,6,7,8-tetrahydro-	0.998005459	C16H16	16	16	3	USA	HC
Acphenanthrylene, 4,5-dihydro-	0.091290956	C16H12	16	12	4	USA	HC
Acridine, 9,10-dihydro-9,9-dimethyl-	0.016656644	C15H15N	15	15	3	USA	N
Benzene, 3,5-dimethyl-1-(phenylmethyl)-	0.073765344	C15H16	15	16	3	USA	HC
o-Terphenyl	0.006992427	C18H14	18	14	3	USA	HC
Anthracene, 9-(2-propenyl)-	0.083043994	C17H14	17	14	3	USA	HC
Phenanthrene, 2,3-dimethyl-	5.893688624	C16H14	16	14	3	USA	HC
Phenanthrene, 2,5-dimethyl-	0.115011764	C16H14	16	14	3	USA	HC
Phenanthrene, 3,6-dimethyl-	2.767124636	C16H14	16	14	3	USA	HC
Phenanthrene, 4,5-dimethyl-	0.703603731	C16H14	16	14	3	USA	HC
9-Ethylfluorene	0.164521261	C15H14	15	14	3	USA	HC
Naphthalene, 6-ethyl-1,2,3,4-tetrahydro-	0.008830325	C12H16	12	16	2	USA	HC
Benz[a]anthracene, 1,2,3,4,7,12-hexahydro-	1.240647068	C18H18	18	18	4	USA	HC
Benzene, (1-methyldodecyl)-	0.054377428	C19H32	19	32	1	USA	HC
Benzene, tridecyl-	0.129932203	C19H32	19	32	1	USA	HC
Benzene, (1,1,4,6,6-pentamethylheptyl)-	0.00500703	C18H30	18	30	1	USA	HC
Benzene, dodecyl-	0.086509299	C18H30	18	30	1	USA	HC
Octane, 3,7-dimethyl-1-(2,5-xylyl)-	0.212959372	C18H30	18	30	1	USA	HC
Benzene, (1,1-dimethylnonyl)-	0.015362692	C17H28	17	28	1	USA	HC
Benzene, [1-(2,4-cyclopentadien-1-ylidene)ethyl]-	0.013185657	C14H14S	14	14	2	USA	S
Benzene, undecyl-	0.046771107	C17H28	17	28	1	USA	HC
di-p-Tolylacetylene	0.363344462	C16H14	16	14	2	USA	HC
Benzene, decyl-	0.018882087	C16H26	16	26	1	USA	HC
5-Methyl-1-phenyloctane	0.010454497	C15H24	15	24	1	USA	HC
Hexane, 2-phenyl-3-propyl-	0.005602443	C15H24	15	24	1	USA	HC
Cyclopropane, 1-butyl-2,2-dimethyl-1-phenylethynyl-	0.106308109	C17H22	17	22	1	USA	HC
Benzene, (1-methylheptyl)-	0.007408585	C14H22	14	22	1	USA	HC
Benzene, 1,4-diethyl-2,3,5,6-tetramethyl-	0.010029303	C14H22	14	22	1	USA	HC
Benzene, octyl-	0.010420014	C14H22	14	22	1	USA	HC
1-Methyl-2-n-hexylbenzene	0.020996636	C13H20	13	20	1	USA	HC
Benzene, 1-methyl-3-hexyl-	0.070242339	C13H20	13	20	1	USA	HC
Benzene, ethylpentamethyl-	0.023569524	C13H20	13	20	1	USA	HC
Benzene, heptyl-	0.011640172	C13H20	13	20	1	USA	HC
Benzene, (1,3-dimethylbutyl)-	0.084237728	C12H18	12	18	1	USA	HC
Benzene, 1,4-dimethyl-2-(2-methylpropyl)-	0.01899039	C12H18	12	18	1	USA	HC
Benzene, 1,4-dipropyl-	0.011509815	C12H18	12	18	1	USA	HC
Benzene, 1-ethyl-4-(2-methylpropyl)-	0.00962417	C12H18	12	18	1	USA	HC
Cyclohexene, 1,5,5-trimethyl-6-(2-propenylidene)-	0.006514393	C12H18	12	18	1	USA	HC
1,1'-Biphenyl, 2,3'-dimethyl-	0.353225861	C14H14	14	14	2	USA	HC
Benzene, 1-(1-methylethenyl)-2-(1-methylethyl)-	0.04032532	C12H16	12	16	1	USA	HC
Benzene, (1-methylbutyl)-	0.021548524	C11H16	11	16	1	USA	HC
Benzene, 1-ethyl-3-(1-methylethyl)-	0.052383595	C11H16	11	16	1	USA	HC
1,1'-Biphenyl, 2,4'-dimethyl-	0.443034515	C14H14	14	14	2	USA	HC
9H-Fluorene, 2,3-dimethyl-	0.487536045	C15H14	15	14	3	USA	HC
4,4'-Dimethylbiphenyl	0.062959571	C14H14	14	14	2	USA	HC
Benzene, 1-methyl-4-(1-methylpropyl)-	0.078616568	C11H16	11	16	1	USA	HC
(1-Methylpenta-2,4-dienyl)benzene	0.005265614	C12H14	12	14	1	USA	HC

1-Phenyl-hexa-1,2-diene	0.00180512	C12H14	12	14	1	USA	HC
Benzene, 1,3,5-trimethyl-2-(1,2-propadienyl)-	0.011312586	C12H14	12	14	1	USA	HC
Benzene, 1-methyl-2-(1-methyl-2-propenyl)-	0.032562678	C11H14	11	14	1	USA	HC
Benzene, 1,2,4,5-tetramethyl-	0.075891293	C10H14	10	14	1	USA	HC
Benzene, 1,3-diethyl-	0.097018677	C10H14	10	14	1	USA	HC
Benzene, 1-ethyl-2,4-dimethyl-	0.057493495	C10H14	10	14	1	USA	HC
Benzene, 1-ethyl-3,5-dimethyl-	0.013934126	C10H14	10	14	1	USA	HC
Benzene, 1-methyl-3-(1-methylethyl)-	0.057805209	C10H14	10	14	1	USA	HC
Benzeneacetonitrile, α -(phenylamino)-	0.010587951	C14H12N2	14	12	2	USA	N
Benzo(a)phenazine	0.006450559	C16H10N2	16	10	4	USA	N
Benzo[a]fluorene, 1,2,3,4,6b,7,8,9,10,10a-decahydro-	0.058225948	C17H22	17	22	4	USA	HC
Benzo[b]thiophene, 2,5,7-trimethyl-	0.043952422	C11H12S	11	12	2	USA	S
Benzo[b]thiophene, 2,7-dimethyl-	0.115933495	C10H10S	10	10	2	USA	S
Benzo[b]thiophene, 2-ethyl-5,7-dimethyl-	0.053005592	C12H14S	12	14	2	USA	S
Benzo[b]thiophene, 2-ethyl-5-methyl-	0.086079973	C11H12S	11	12	2	USA	S
Benzo[b]thiophene, 2-methyl-	0.121579707	C9H8S	9	8	2	USA	S
Benzo[b]thiophene, 3,5-dimethyl-	0.118741162	C10H10S	10	10	2	USA	S
Benzo[b]thiophene, 4-methyl-	0.036975513	C9H8S	9	8	2	USA	S
Benzo[c]cinnoline	0.019476677	C12H8N2	12	8	3	USA	N
Benzo[c]thiophene	0.029632458	C8H6S	8	6	2	USA	S
Bicyclo[2.2.1]hept-2-ene, 1,7,7-trimethyl-2-phenyl-	0.010596559	C16H20	16	20	3	SA	HC
Phenanthrene, 9,10-dihydro-1-methyl-	0.164483863	C15H14	15	14	3	USA	HC
Butane, 2,2-dimethyl-	0.071967781	C6H14	6	14	0		HC
Butanenitrile, 3-methyl-	0.002044736	C5H9N	5	9	0		N
Carbazole	0.073974103	C12H9N	12	9	3	USA	N
Carbazole, 2,6-dimethyl-	0.004833364	C14H13N	14	13	3	USA	N
Carbazole, 4,5-dimethyl-	0.177958198	C14H13N	14	13	3	USA	N
4-Ethylbiphenyl	0.138133547	C14H14	14	14	2	USA	HC
Benzene, 1-methyl-4-propyl-	0.006895576	C10H14	10	14	1	USA	HC
Cyclopropane, 1,1'-methylenebis-	0.006822002	C7H12	7	12	2	SA	HC
Benzene, 1-ethenyl-4-ethyl-	0.028371983	C10H12	10	12	1	USA	HC
Decane, 2,4-dimethyl-	0.031807056	C12H26	12	26	0		HC
Decane, 2,5,9-trimethyl-	0.023413661	C13H28	13	28	0		HC
Decane, 6-ethyl-2-methyl-	0.172767076	C13H28	13	28	0		HC
1,2,3,6,7,8-Hexahydro-as-indacene	0.003741821	C12H14	12	14	3	USA	HC
Dibenzo[b,d]thiophene, 1,3,6,7-tetramethyl-	3.45514209	C16H16S	16	16	3	USA	S
Dibenzothiophene	0.751141579	C12H8S	12	8	3	USA	S
Dibenzothiophene, 4-methyl-	4.736550146	C13H10S	13	10	3	USA	S
Naphthalene, 1,4,5-trimethyl-	0.173099982	C13H14	13	14	2	USA	HC
Dodecane, 2,7,10-trimethyl-	0.083781367	C15H32	15	32	0		HC
Dodecane, 2-methyl-	0.180988509	C13H28	13	28	0		HC
Eicosane	2.37886974	C20H42	20	42	0		HC
Eicosane, 10-methyl-	0.310860688	C21H44	21	44	0		HC
Eicosane, 2-methyl-	0.202990478	C21H44	21	44	0		HC
Fluoranthene	0.301868251	C16H10	16	10	4	USA	HC
1H-Indene, 1-(phenylmethylene)-	0.002342219	C16H12	16	12	3	USA	HC
Heptadecane	0.520764382	C17H36	17	36	0		HC
Heptadecane, 2,6,10,15-tetramethyl-	0.429137906	C21H44	21	44	0		HC

Hexadecane	0.21608153	C16H34	16	34	0		HC
Benzene, 1,2,3-trimethyl-	0.028254995	C9H12	9	12	1	USA	HC
Hexane, 3,3-dimethyl-	0.009881659	C8H18	8	18	0		HC
Naphthalene, 1,4,6-trimethyl-	0.944676337	C13H14	13	14	2	USA	HC
Benzene, 1-ethyl-2-methyl-	0.076266046	C9H12	9	12	1	USA	HC
N-(4-Cyanobutyl)-2-ethylpiperidine	0.00154601	C12H22N2	12	22	1	SA	N
N,N'-Di(2-propenyl)-1,2,4,5-tetrazin-3,6-diamine	0.003831025	C8H12N6	8	12	1	USA	N
Naphthalene, 1,6,7-trimethyl-	0.057518118	C13H14	13	14	2	USA	HC
Naphthalene, 1-propyl-	0.037946929	C13H14	13	14	2	USA	HC
1H-Indene, 1,1,3-trimethyl-	0.010130155	C12H14	12	14	2	USA	HC
1H-Indene, 2,3-dihydro-1,3-dimethyl-	0.011664192	C11H14	11	14	2	USA	HC
1H-Indene, 2,3-dihydro-1,6-dimethyl-	0.07450189	C11H14	11	14	2	USA	HC
1H-Indene, 2,3-dihydro-4,7-dimethyl-	0.10654425	C11H14	11	14	2	USA	HC
2-Ethyl-2,3-dihydro-1H-indene	0.045152222	C11H14	11	14	2	USA	HC
3a,6-Methano-3aH-indene, 2,3,4,5,6,7-hexahydro-	0.034788129	C10H14	10	14	2	USA	HC
Naphthalene, 1,8-di-1-propynyl-	0.311426359	C16H12	16	12	2	USA	HC
Propyne, 1,3-diphenyl-	0.004033258	C15H12	15	12	2	USA	HC
1,1'-Biphenyl, 2-methyl-	0.194462682	C13H12	13	12	2	USA	HC
1,1'-Biphenyl, 3-methyl-	0.094427937	C13H12	13	12	2	USA	HC
Naphthalene, 1-(2-propenyl)-	0.226457512	C13H12	13	12	2	USA	HC
Naphthalene, 1,7-dimethyl-	1.144096432	C12H12	12	12	2	USA	HC
Naphthalene, 1-ethyl-	0.244438058	C12H12	12	12	2	USA	HC
1H-Indene, 1,3-dimethyl-	0.020394036	C11H12	11	12	2	USA	HC
2-Ethyl-1-H-indene	0.002896587	C11H12	11	12	2	USA	HC
Naphthalene, 1,2-dihydro-4-methyl-	0.016637784	C11H12	11	12	2	USA	HC
Naphthalene, 2,2'-(1-methyl-1,3-propanediyl)bis-	0.072281821	C24H22	24	22	4	USA	HC
1H-Indene, 2,3-dihydro-4-methyl-	0.094748651	C10H12	10	12	2	USA	HC
1H-Indene, 2,3-dihydro-5-methyl-	0.060469828	C10H12	10	12	2	USA	HC
Naphthalene, 2-ethenyl-	0.004143187	C12H10	12	10	2	USA	HC
Naphthalene, 2-methyl-	0.923665892	C11H10	11	10	2	USA	HC
2-Methylindene	0.027183678	C10H10	10	10	2	USA	HC
Naphtho[2,1-b]thiophene	0.091101652	C12H8S	12	8	3	USA	S
Naphtho[2,3-b]thiophene, 4,9-dimethyl-	0.762661809	C14H12S	14	12	3	USA	S
Naphtho[2,3-c]thiophene, 1,3-dihydro-	0.007440676	C12H10S	12	10	3	USA	S
Nonadecane, 2-methyl-	0.918683896	C20H42	20	42	0		HC
Octadecane, 2-methyl-	2.498029612	C19H40	19	40	0		HC
Octane, 2,6,6-trimethyl-	0.007460764	C11H24	11	24	0		HC
Octane, 2,7-dimethyl-	0.027234016	C10H22	10	22	0		HC
Octane, 3,4,5,6-tetramethyl-	0.149335078	C12H26	12	26	0		HC
Benzene, propyl-	0.004808131	C9H12	9	12	1	USA	HC
1H-Indene, 1-phenyl-	0.008738981	C15H12	15	12	3	USA	HC
Mesitylene	0.105607628	C9H12	9	12	1	USA	HC
p-Xylene	0.036993665	C8H10	8	10	1	USA	HC
Pentane, 2,3,3-trimethyl-	0.003882711	C8H18	8	18	0		HC
Phenalenol[1,9-bc]thiophene	0.0392154	C14H8S	14	8	4	USA	S
Anthracene, 1-methyl-	6.169821298	C15H12	15	12	3	USA	HC
Anthracene, 2-methyl-	0.013345885	C15H12	15	12	3	USA	HC
Phenanthrene, 1-methyl-	2.025062672	C15H12	15	12	3	USA	HC

Phenanthrene, 3-methyl-	0.001415138	C15H12	15	12	3	USA	HC
Phenanthrene, 4-methyl-	0.042100918	C15H12	15	12	3	USA	HC
Phenanthrene, 9-methyl-	0.006228478	C15H12	15	12	3	USA	HC
9H-Fluorene, 2-methyl-	0.742785391	C14H12	14	12	3	USA	HC
9H-Fluorene, 3-methyl-	0.179326763	C14H12	14	12	3	USA	HC
Anthracene, 9,10-dihydro-	0.004351728	C14H12	14	12	3	USA	HC
Phenanthrene	1.730924033	C14H10	14	10	3	USA	HC
Fluorene	0.061674012	C13H10	13	10	3	USA	HC
Acenaphthene	0.027788296	C12H10	12	10	3	USA	HC
Benzene, cyclopropyl-	0.029885666	C9H10	9	10	2	USA	HC
Benzene, 1-ethynyl-4-methyl-	0.004679652	C9H8	9	8	1	USA	HC
Pyrazine, isopropenyl-	0.004173477	C7H8N2	7	8	1	USA	N
Pyrene	1.59252661	C16H10	16	10	4	USA	HC
Pyrene, 1,2,3,3a,4,5,9,10,10a,10b-decahydro-	0.089087734	C16H20	16	20	4	USA	HC
Pyrene, 10b,10c-dihydro-10b,10c-dipropyl-, trans-	0.001948766	C22H24	22	24	4	USA	HC
Pyrene, 1-methyl-	0.293225415	C17H12	17	12	4	USA	HC
Pyrene, 4-methyl-	0.029677596	C17H12	17	12	4	USA	HC
Pyridine, 2-(2-phenylethenyl)-	0.019827356	C13H11N	13	11	2	USA	N
Azulene	0.192729605	C10H8	10	8	2	USA	HC
Thioxanthene	0.00160503	C13H10S	13	10	3	USA	S
Toluene	0.002224118	C7H8	7	8	1	USA	HC
trans-1,4-Di-tert-butyl-cyclohexane	0.003010295	C14H28	14	28	1	SA	HC
trans-p-Dimethylaminocinnamitrile	0.007873506	C11H12N2	11	12	1	USA	N
Tricyclo[3.2.1.0(2,4)]octane, 8-methylene-, (1 α ,2 α ,4 α ,5 α)-	0.010586837	C9H12	9	12	3	SA	HC
Tridecane	0.149299907	C13H28	13	28	0		HC

Table S2. Raw data of products over N.M/SA-3 using 2D GC-Tof MS

Compound Name	%	Fomula	C	H	Ring No.	Saturated (SA) / Unsaturated (USA)	GROUP
n-Heptadecylbenzene	0.011527498	C23H40	23	40	1	USA	HC
(2S,4aS,5R,8aR)-5-(Pent-4-en-1-yl)-2-propyldecahydroquinoline	0.003487658	C17H31N1	17	31	2	SA	N
(4R,6S,9aR)-4,6-Di(pent-4-en-1-yl)octahydro-1H-quinolizine	0.001169829	C19H33N1	19	33	2	SA	N
[1,1'-Biphenyl]-2-amine, N-(1-methylethylidene)-	0.001712009	C15H15N1	15	15	2	USA	N
Benzene, (1-methylpentadecyl)-	0.018408675	C22H38	22	38	1	USA	HC
1H-Indene, 2-butyl-1-hexyl-2,3-dihydro-	0.003535359	C19H30	19	30	2	USA	HC
1-(tert-Butyl)-2-cyano-3,3-dimethylpiperidine	0.00222854	C12H22N2	12	22	1	SA	N
2-methyloctacosane	0.077434109	C29H60	29	60	0		HC
1,1'-Bicyclohexyl, 2-methyl-, cis-	0.040537925	C13H24	13	24	2	SA	HC
1,1'-Biphenyl, 2-(1-azido-1-methylethyl)-	0.012606696	C15H15N3	15	15	2	USA	N
Benzene, 1-[2-(4-butylcyclohexyl)ethyl]-4-[2-(4-(4-pentylcyclohexyl)phenyl)ethyl]-	0.004023698	C37H56	37	56	4	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-1-nonyl-	0.009968758	C19H30	19	30	2	USA	HC
Naphthalene, 2-butyl-3-hexyl-	0.011164115	C20H28	20	28	2	USA	HC
1H-Indene, 2,3-dihydro-1-methyl-3-octyl-	0.005212202	C18H28	18	28	2	USA	HC
Indane, 1-nonyl-	0.00103531	C18H28	18	28	2	USA	HC
Naphthalene, 1-heptyl-1,2,3,4-tetrahydro-4-methyl-	0.024534626	C18H28	18	28	2	USA	HC
Benzene, 1-ethyl-4-(4-propylcyclohexyl)-, trans-	0.019095064	C17H26	17	26	2	USA	HC
Benzene, 1-(3-cyclopentylpropyl)-2,4-dimethyl-	0.004988099	C16H24	16	24	2	USA	HC
Benzene, 1-butyl-4-[(4-ethylphenyl)ethynyl]-	0.01594513	C20H22	20	22	2	USA	HC
Cyclopropane, 1-butyl-2,2-dimethyl-1-phenylethynyl-	0.007158656	C17H22	17	22	2	USA	HC
1,1'-Biphenyl, 2,2',5,5'-tetramethyl-	0.401529978	C34H36	34	36	4	USA	HC
Chrysene, 1,2,3,4,4a,7,8,9,10,11,12,12a-dodecahydro-	0.005617164	C18H24	18	24	4	USA	HC
1,2,3,3a-Tetrahydro-7-methyl-10-(4-methylphenyl)benzo[c]cyclopenta[<i>f</i>]-1,2-diazepine	0.014434934	C20H20N2	20	20	4	USA	N
Pyrene, 1,2,3,3a,4,5,5a,6,7,8,8a,9,10,10a-tetradecahydro-	0.043666961	C16H24	16	24	4	USA	HC
1H-Indene, 2,3-dihydro-1,1-dimethyl-4-(3-methyl-3-butenyl)-	0.015237047	C16H22	16	22	2	USA	HC
1,2,3,6,7,8,9,10,11,12-Decahydrobenzo[<i>e</i>]pyrene	0.008000198	C20H22	20	22	5	USA	HC
10,18-Bisnorabieta-5,7,9(10),11,13-pentaene	0.013603482	C18H22	18	22	3	USA	HC
1,2-Dihydrobenzo[<i>b</i>]fluoranthene	0.002053128	C20H14	20	14	5	USA	HC
Benzene, hexadecyl-	0.019713085	C22H38	22	38	1	USA	HC
Pentadecane, 2-methyl-2-phenyl-	0.001964265	C22H38	22	38	1	USA	HC
Anthracene, 9-butyl-1,2,3,4-tetrahydro-	0.01706974	C18H22	18	22	3	USA	HC
Benzene, pentadecyl-	0.044120738	C21H36	21	36	1	USA	HC
Benzene, 1-methyl-4-(1,2,2-trimethylcyclopentyl)-, (R)-	0.048747511	C15H22	15	22	2	USA	HC
Cyclopent[<i>a</i>]indene, 3,8-dihydro-1,2,3,3,8,8-hexamethyl-	0.019184378	C18H22	18	22	3	USA	HC
Isolongifolene, 9,10-dehydro-	0.131922497	C15H22	15	22	2	USA	HC
Docosane, 11-butyl-	0.054002578	C26H54	26	54	0		HC
Aromadendrene, dehydro-	0.290233894	C15H22	15	22	3	USA	HC
Docosane, 2,21-dimethyl-	0.082944065	C24H50	24	50	0		HC
1,7-Dimethyl-4-(1-methylethyl)cyclodecane	0.764238802	C15H30	15	30	1	SA	HC
Naphthalene, 1,2,3,4-tetrahydro-1,6-dimethyl-4-(1-methylethyl)-, (1S-cis)-	0.001270476	C15H22	15	22	2	USA	HC
2-tert-Butyl-1-phenylanthracene	0.035905777	C20H20	20	20	3	USA	HC
Tetracosane	0.229370236	C24H50	24	50	0		HC
10-Nonadecanamine	0.001051089	C19H41N1	19	41	0		N
8-Isopropyl-1,3-dimethylphenanthrene	0.100563569	C19H20	19	20	3	USA	HC
1H-2,3-Benzodiazepine, 1-methyl-4-phenyl-	0.002467037	C16H14N2	16	14	3	USA	N
Eicosane, 10-methyl-	0.463430308	C21H44	21	44	0		HC

1,5,6,7-Tetramethyl-3-phenylbicyclo[3.2.0]hepta-2,6-diene	0.017879089	C17H20	17	20	3	USA	HC
Naphthalene, 6-(1-ethylpropyl)-1,2,3,4-tetrahydro-	0.032464437	C15H22	15	22	2	USA	HC
Anthracene, 1,2,3,4-tetrahydro-9-propyl-	0.091731253	C17H20	17	20	3	USA	HC
Neoisolongifolene, 8,9-dehydro-	0.228643451	C15H22	15	22	2	USA	HC
Benzene, 1-[(4-ethylphenyl)ethynyl]-4-propyl-	0.030525128	C19H20	19	20	2	USA	HC
Benzene, 1-(1,2-dimethyl-3-methylenecyclopentyl)-4-methyl-, cis-	0.011310267	C15H20	15	20	2	USA	HC
1,2,3,4-Tetrahydro-3-isopropyl-5-methylnaphthalene	0.161997542	C14H20	14	20	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-1-methyl-8-(1-methylethyl)-	0.030467281	C14H20	14	20	2	USA	HC
Naphthalene, 5-butyl-1,2,3,4-tetrahydro-	0.015567532	C14H20	14	20	2	USA	HC
Naphthalene, 6-butyl-1,2,3,4-tetrahydro-	0.17287737	C14H20	14	20	2	USA	HC
Benzene, 1,1'-(1,5-hexadiene-1,6-diyl)bis-	0.001159722	C18H18	18	18	2	USA	HC
Benzene, 1-methyl-4-[(4-propylphenyl)ethynyl]-	0.130321432	C18H18	18	18	2	USA	HC
1,1'-Biphenyl, 3,3',4,4'-tetramethyl-	0.156714631	C16H18	16	18	2	USA	HC
1,1'-Biphenyl, 3,4-diethyl-	0.212329108	C16H18	16	18	2	USA	HC
1H-Indene, octahydro-, cis-	0.01301374	C9H16	9	16	2	SA	HC
1H-Indene, octahydro-2,2,4,4,7,7-hexamethyl-, trans-	0.008557181	C15H28	15	28	2	SA	HC
1H-Indole, 3-ethyl-2-(2-pyridyl)-	0.231778771	C15H14N2	15	14	3	USA	N
1H-Pyrrolo[2,3-b]pyridine, 1-methyl-	0.0049774	C8H8N2	8	8	2	USA	N
3,5,3',5'-Tetramethylbiphenyl	0.349280992	C16H18	16	18	2	USA	HC
Benzene, (1-methyltridecyl)-	0.038621577	C20H34	20	34	1	USA	HC
Anthracene, 9-ethyl-1,2,3,4,5,6-hexahydro-	0.038676111	C16H20	16	20	3	USA	HC
1-Methylamino-2-[(1-methyl-2-benzimidazolyl)methylamino]benzene	0.00406148	C16H18N4	16	18	3	USA	N
1-Methyldecahydronaphthalene	0.035438017	C11H20	11	20	2	SA	HC
1-Methyldibenzothiophene	0.004912996	C13H10S1	13	10	3	USA	S
Eicosane, 2-methyl-	0.191946827	C21H44	21	44	0		HC
1-Nonylcycloheptane	0.03000752	C16H32	16	32	1	SA	HC
Eicosane, 3-methyl-	0.117605565	C21H44	21	44	0		HC
Heneicosane	0.730303992	C21H44	21	44	0		HC
Heptadecane, 2,6,10,14-tetramethyl-	0.067464799	C21H44	21	44	0		HC
Benzene, tetradecyl-	0.061220692	C20H34	20	34	1	USA	HC
Benzene, (1-ethylundecyl)-	0.009275131	C19H32	19	32	1	USA	HC
1-Propene-2-thiol, 1,1-diphenyl-	0.306039374	C15H14S1	15	14	2	USA	S
Heptadecane, 2,6,10,15-tetramethyl-	0.140503191	C21H44	21	44	0		HC
10-Heneicosane (c,t)	0.071292379	C21H42	21	42	0		HC
2,2-Diethyl-1,3-dithiane	0.002373851	C8H16S2	8	16	1	SA	S
Naphthalene, 1,6-dimethyl-4-(1-methylethyl)-	0.105625393	C15H18	15	18	2	USA	HC
1H-Indene, 3-butyl-1-methyl-	0.130141038	C14H18	14	18	2	USA	HC
2,3-Dihydro-1-ethyl-1H-3-methylcyclopenta[b]quinoxaline	0.002890872	C14H16N2	14	16	3	USA	N
9-Methyl-S-octahydrophenanthrene	0.130790516	C15H20	15	20	3	USA	HC
Eicosane	3.0778895	C20H42	20	42	0		HC
Benzene, (1-methyldecyl)-	0.045285974	C19H32	19	32	1	USA	HC
2,6-Pyrazinediamine	0.013741544	C4H6N4	4	6	1	USA	N
2,7-Dimethyldibenzothiophene	0.251220688	C14H12S1	14	12	3	USA	S
Nonadecane, 2-methyl-	0.777597777	C20H42	20	42	0		HC
2-Amino-5-isopropyl-8-methyl-1-azulenecarbonitrile	0.05751784	C15H16N2	15	16	2	USA	N
2-Azafluorene	0.006034975	C12H9N1	12	9	3	USA	N
1H-Indene, 3-ethyl-1-(1-methylethyl)-	0.073713708	C14H18	14	18	2	USA	HC
2-Ethylacridine	0.005073587	C15H13N1	15	13	3	USA	N

Anthracene, 1,2,3,4,5,6,7,8-octahydro-1-methyl-	0.043149977	C15H20	15	20	3		USA	HC
3-Eicosene, (E)-	0.031573367	C20H40	20	40	0			HC
2-Pyridinamine, N-phenyl-	0.004876737	C11H10N2	11	10	2		USA	N
Isolongifolene, 4,5,9,10-dehydro-	0.072672579	C15H20	15	20	3		USA	HC
5-Eicosene, (E)-	0.115749422	C20H40	20	40	0			HC
1H-Indene, 2,3-dihydro-1,1,5,6-tetramethyl-	0.003947286	C13H18	13	18	2		USA	HC
3,3-Diphenyl-5-methyl-3H-pyrazole	0.002739077	C16H14N2	16	14	3		USA	N
Benzene, (2,4-dimethylcyclopentyl)-	0.327872929	C13H18	13	18	2		USA	HC
3,7-Dimethyldibenzothiophene	0.094224582	C14H12S1	14	12	3		USA	S
Octadecane, 2-methyl-	0.663858064	C19H40	19	40	0			HC
Benzene, 1-cyclohexyl-3-methyl-	0.730777321	C13H18	13	18	2		USA	HC
3b,4,5,6,7,7a,9,10,11,12-Decahydrobenzo[b]fluoranthene	0.001694939	C20H22	20	22	5		USA	HC
Octadecane, 3-methyl-	0.082939933	C19H40	19	40	0			HC
Benzene, tridecyl-	0.075434414	C19H32	19	32	1		USA	HC
Tridecane, 7-hexyl-	0.059942023	C19H40	19	40	0			HC
Heptadecane, 4-methyl-	0.10557262	C18H38	18	38	0			HC
Octadecane	0.846771979	C18H38	18	38	0			HC
Naphthalene, 1,2,3,4-tetrahydro-1,1,6-trimethyl-	0.299124009	C13H18	13	18	2		USA	HC
Bicyclo[4.2.0]oct-1-ene, exo-7-(1-cyclohexen-1-yl)-	0.060914312	C14H20	14	20	3		USA	HC
Naphthalene, 1,2,3,4-tetrahydro-2,5,8-trimethyl-	0.052359618	C13H18	13	18	2		USA	HC
Naphthalene, 2,2'-(1-methyl-1,3-propanediyl)bis-	0.121497717	C24H22	24	22	4		USA	HC
Pentadecane, 2,6,10-trimethyl-	0.417605367	C18H38	18	38	0			HC
4-Methylnaphtho[1,2-b]thiophene	0.135733962	C13H10S1	13	10	3		USA	S
Heptadecane	0.771888597	C17H36	17	36	0			HC
Hexadecane, 2-methyl-	0.140544994	C17H36	17	36	0			HC
Hexadecane, 3-methyl-	0.102170786	C17H36	17	36	0			HC
3-Octadecyne	0.007549577	C18H34	18	34	0			HC
5-(p-Tolyl)-1H-tetrazole	0.005408124	C8H8N4	8	8	2		USA	N
Benzo[a]fluorene, 1,2,3,4,6b,7,8,9,10,10a-decahydro-	0.02551449	C17H22	17	22	4		USA	HC
Biphenylene, 1,2,3,6,7,8,8a,8b-octahydro-4,5-dimethyl-	1.314610364	C14H20	14	20	3		USA	HC
Hexadecane	0.593296031	C16H34	16	34	0			HC
Naphthalene, 1,2,3,4-tetrahydro-6-propyl-	0.883854604	C13H18	13	18	2		USA	HC
Pentadecane, 2-methyl-	0.105620376	C16H34	16	34	0			HC
6-Methyl-3,3'-bi(1H-indole)	0.082456961	C17H14N2	17	14	4		USA	N
Cycloisolongifolene, 8,9-dehydro-	0.033554889	C15H22	15	22	4		USA	HC
7,8,9,10,11,12-Hexahydrobenzo[a]pyrene	0.034097974	C20H18	20	18	5		USA	HC
1,2,3,4,5,6,7,8-Octahydrotriphenylene	0.304598629	C18H20	18	20	4		USA	HC
1,2,3,3a,4,5,5a,6,7,8-Decahydropyrene	0.096535829	C16H20	16	20	4		USA	HC
8,9,10,11-Tetrahydrobenzo[k]fluoranthene	0.002288219	C20H16	20	16	5		USA	HC
Fluoranthene, 1,2,3,6b,7,8,9,10,10a,10b-decahydro-	0.067854302	C16H20	16	20	4		USA	HC
Dispiro[4.2.4.2]tetradeca-6,13-diene	0.067856718	C14H20	14	20	3		USA	HC
2,3-Dimethylenetricyclo[9.2.2.2(4,7)]heptadeca-1(14),4(17),5,7(16),11(15),12-hexaene	0.003528989	C19H18	19	18	3		USA	HC
9H-Carbazole, 2-methyl-	0.048866373	C13H11N1	13	11	3		USA	N
1,3,6,8-Tetramethylantracene	0.229199758	C18H18	18	18	3		USA	HC
2-Isopropyl-10-methylphenanthrene	0.447112577	C18H18	18	18	3		USA	HC
Anthracene, 9,10-dihydro-9,10-trimethyl-	0.16920418	C17H18	17	18	3		USA	HC
Anthracene, 9-ethyl-9,10-dihydro-10-methyl-	0.181995165	C17H18	17	18	3		USA	HC
Oxalic acid, allyl dodecyl ester	0.128712434	C16H20	16	20	4		USA	HC

Anthracene, 1,2,3,4-tetrahydro-9,10-dimethyl-	0.482312557	C16H18	16	18	3	USA	HC
Anthracene, 1,2,3,4,5,6,7,8-octahydro-	0.033354219	C14H18	14	18	3	USA	HC
Phenanthrene, 1,2,3,4,5,6,7,8-octahydro-	0.011688008	C14H18	14	18	3	USA	HC
1,2,3,3a,8,9,9a,9b-Octahydrocyclopenta[def]phenanthrene	0.722744865	C15H18	15	18	4	USA	HC
4-Benzylbiphenyl	0.027704131	C19H16	19	16	3	USA	HC
1,4-Dimethyl-2-phenyl-naphthalene	0.071657181	C18H16	18	16	3	USA	HC
1-benzyl-3-methylnaphthalene	0.04316217	C18H16	18	16	3	USA	HC
1-Methyl-4-p-tolynaphthalene	0.193389501	C18H16	18	16	3	USA	HC
Anthracene, 1-(3-butenyl)-	0.071250165	C18H16	18	16	3	USA	HC
9-Ethyl-10-methylantracene	0.481346267	C17H16	17	16	3	USA	HC
Phenanthrene, 2,3,5-trimethyl-	1.506734965	C17H16	17	16	3	USA	HC
1,2,5,6-Tetramethylacenaphthylene	1.464088824	C16H16	16	16	3	USA	HC
5,6,7,8-Tetrahydro-1-phenylnaphthalene	0.105864864	C16H16	16	16	3	USA	HC
Dibenzo[a,c]cyclooctene, 5,6,7,8-tetrahydro-	0.637487003	C16H16	16	16	3	USA	HC
Fluorene, 1,2,3,4,4a,9a-hexahydro-, cis-	0.055841881	C13H16	13	16	3	USA	HC
o-Terphenyl	0.00506872	C18H14	18	14	3	USA	HC
Anthracene, 9-(2-propenyl)-	0.143961288	C17H14	17	14	3	USA	HC
Anthracene, 2-ethyl-	0.667732483	C16H14	16	14	3	USA	HC
Phenanthrene, 1,7-dimethyl-	2.197760483	C16H14	16	14	3	USA	HC
Phenanthrene, 2,3-dimethyl-	0.558847013	C16H14	16	14	3	USA	HC
Phenanthrene, 2,5-dimethyl-	0.0216452	C16H14	16	14	3	USA	HC
6,7-Dimethyl-1,2,3,5,8,8a-hexahydronaphthalene	0.119855911	C12H18	12	18	2	USA	HC
5,12-Dimethylbenz[a]anthracene	0.002485423	C20H16	20	16	4	USA	HC
Benz(a)anthracene, 4,7-dimethyl-	0.006316529	C20H16	20	16	4	USA	HC
Benz(a)anthracene, 6,8-dimethyl-	0.007102978	C20H16	20	16	4	USA	HC
Benz(a)anthracene, 7,8-dimethyl-	0.002631404	C20H16	20	16	4	USA	HC
Benz(a)anthracene, 8,12-dimethyl-	0.006521053	C20H16	20	16	4	USA	HC
Benzene, (1-methylundecyl)-	0.051616868	C18H30	18	30	1	USA	HC
Benzene, dodecyl-	0.069883213	C18H30	18	30	1	USA	HC
Octane, 3,7-dimethyl-1-(2,5-xylyl)-	0.174314892	C18H30	18	30	1	USA	HC
Benzene, (1-ethylnonyl)-	0.066648805	C17H28	17	28	1	USA	HC
Benzene, (1-methyldecyl)-	0.049651228	C17H28	17	28	1	USA	HC
Benzene, undecyl-	0.078277044	C17H28	17	28	1	USA	HC
Benzene, (1-ethyloctyl)-	0.066818873	C16H26	16	26	1	USA	HC
Benzene, (1-methylnonyl)-	0.06310166	C16H26	16	26	1	USA	HC
Benzene, decyl-	0.08592449	C16H26	16	26	1	USA	HC
Cyclohexane, (2-ethyl-1-methyl-1-butenyl)-	0.026223134	C13H24	13	24	1	USA	HC
Benzene, (1-ethylheptyl)-	0.093470094	C15H24	15	24	1	USA	HC
Benzene, (1-methyl-1-propylpentyl)-	0.134032323	C15H24	15	24	1	USA	HC
Benzene, 1-(1,5-dimethylhexyl)-4-methyl-	0.023187646	C15H24	15	24	1	USA	HC
Benzene, nonyl-	0.075632607	C15H24	15	24	1	USA	HC
Hexane, 2-phenyl-3-propyl-	0.07731338	C15H24	15	24	1	USA	HC
Benzene, (2-ethenyl-1,4,4-trimethylpentyl)-	0.002026848	C16H24	16	24	1	USA	HC
Benzene, 1,1'-(1,2-ethenediyl)bis[2-methyl-	0.152213113	C16H16	16	16	2	USA	HC
1-Phenyl-5-methylheptane	0.004301765	C14H22	14	22	1	USA	HC
Benzene, 1,1'-ethenyldienebis-[4-methyl-	0.193920556	C16H16	16	16	2	USA	HC
1,1'-Biphenyl, 4-(1-methylethyl)-	1.107410296	C15H16	15	16	2	USA	HC
Benzene, (1-ethylhexyl)-	0.044809313	C14H22	14	22	1	USA	HC

Benzene, 1-isopentyl-2,4,5-trimethyl-	0.013632844	C14H22	14	22	1	USA	HC
Benzene, octyl-	0.096147286	C14H22	14	22	1	USA	HC
1-Phenyl-2-methyl-oct-1-ene	0.001606098	C15H22	15	22	1	USA	HC
Benzene, 1-(1-buten-3-yl)-4-pentyl-	0.166561471	C15H22	15	22	1	USA	HC
Benzene, 1,2-dimethyl-4-(phenylmethyl)-	1.613448139	C15H16	15	16	2	USA	HC
Benzene, 1-methyl-3-[(4-methylphenyl)methyl]-	1.074572764	C15H16	15	16	2	USA	HC
Methane, di-p-tolyl-	0.555889677	C15H16	15	16	2	USA	HC
1,4,5,8-Tetramethylnaphthalene	0.015555359	C14H16	14	16	2	USA	HC
1,3,5-Cycloheptatriene, 2,4-diethyl-7,7-dimethyl-	0.159233805	C13H20	13	20	1	USA	HC
1-Methyl-2-n-hexylbenzene	0.014169156	C13H20	13	20	1	USA	HC
Benzene, 1-methyl-3-hexyl-	0.215526259	C13H20	13	20	1	USA	HC
Benzene, heptyl-	0.1516677	C13H20	13	20	1	USA	HC
1,3-Cyclohexadiene, 2,6,6-trimethyl-1-(3-methyl-1,3-butadienyl)-	0.028446678	C14H20	14	20	1	USA	HC
2,2'-Dimethylbiphenyl	1.75376308	C14H16	14	16	2	USA	HC
Benzene, 1-(1-methyl-2-propenyl)-4-(2-methylpropyl)-	0.010813309	C14H20	14	20	1	USA	HC
Bicyclo[3.1.1]heptane, 2,6,6-trimethyl-, [1R-(1 α ,2 β ,5 α)]-	0.003356506	C10H18	10	18	1	USA	HC
Cyclohexene, 1-butyl-	0.021835366	C10H18	10	18	1	USA	HC
Benzene, (1,3-dimethylbutyl)-	0.292557365	C12H18	12	18	1	USA	HC
3,3'-Dimethylbiphenyl	2.029089665	C14H16	14	16	2	USA	HC
7,12-Dihydro-2-methylbenz[a]anthracene	0.159885116	C19H16	19	16	4	USA	HC
Chamazulene	0.494255672	C14H16	14	16	2	USA	HC
Naphthalene, 1,2,3,4-tetramethyl-	0.507693485	C14H16	14	16	2	USA	HC
Benzene, (1-methylpentyl)-	0.319921111	C12H18	12	18	1	USA	HC
Benzene, 1,2,4-triethyl-	0.113667242	C12H18	12	18	1	USA	HC
Benzene, 1-ethyl-4-(2-methylpropyl)-	0.160854146	C12H18	12	18	1	USA	HC
Benzene, 1-methyl-2-(1-ethylpropyl)-	0.026204854	C12H18	12	18	1	USA	HC
Benzene, 2,4-dimethyl-1-(1-methylpropyl)-	0.37985087	C12H18	12	18	1	USA	HC
Naphthalene, 2-methyl-1-propyl-	0.933515876	C14H16	14	16	2	USA	HC
(1,4-Dimethylpent-2-enyl)benzene	0.121331246	C13H18	13	18	1	USA	HC
1-(3-Methylphenyl)4-methyl-3-pentene	0.118493486	C13H18	13	18	1	USA	HC
3-Ethyl-3-phenyl-1-pentene	0.400775392	C13H18	13	18	1	USA	HC
1-(4-Tolyl)-1-cyclohexene	0.040876705	C13H16	13	16	2	USA	HC
Benzene, 2-(2-butenyl)-1,3,5-trimethyl-	0.150810714	C13H18	13	18	1	USA	HC
1H-Indene, 1-methyl-3-propyl-	0.012967598	C13H16	13	16	2	USA	HC
Benzene, 1,2-bis(1-buten-3-yl)-	0.05780388	C14H18	14	18	1	USA	HC
1H-Indene, 3-ethenyl-2,3-dihydro-1,1-dimethyl-	0.05616852	C13H16	13	16	2	USA	HC
Cyclopropane, 1,1,2,2-tetramethyl-3-(2-phenylethenylideno)-	0.107214555	C15H18	15	18	1	USA	HC
Benzene, 1,4-diethyl-2-methyl-	0.142996647	C11H16	11	16	1	USA	HC
Benzene, 1-methyl-4-(1-methylpropyl)-	0.842593826	C11H16	11	16	1	USA	HC
Benzene, 1-methyl-4-butyl	0.724885293	C11H16	11	16	1	USA	HC
Benzene, 2,4-diethyl-1-methyl-	0.208371982	C11H16	11	16	1	USA	HC
1H-Indene, 2,3-dihydro-1,1,5-trimethyl-	0.050296831	C12H16	12	16	2	USA	HC
Benzene, 1-(1-methylethenyl)-2-(1-methylethyl)-	0.123789082	C12H16	12	16	1	USA	HC
Benzene, 1-(1-methylethenyl)-3-(1-methylethyl)-	0.116316379	C12H16	12	16	1	USA	HC
Benzene, 1,3,5-trimethyl-2-(1-methylethenyl)-	0.09241362	C12H16	12	16	1	USA	HC
Benzene, 4-(2-butenyl)-1,2-dimethyl-, (E)-	0.293751409	C12H16	12	16	1	USA	HC
Benzene, (1-methylpropyl)-	0.096182419	C10H14	10	14	1	USA	HC
Benzene, 1,2,3,5-tetramethyl-	0.049708677	C10H14	10	14	1	USA	HC

Benzene, 1,2,4,5-tetramethyl-	0.184796781	C10H14	10	14	1	USA	HC
Benzene, 1,3-diethyl-	0.982577699	C10H14	10	14	1	USA	HC
Benzene, 1-ethyl-2,4-dimethyl-	0.054784054	C10H14	10	14	1	USA	HC
Benzene, 1-methyl-4-propyl-	0.114822887	C10H14	10	14	1	USA	HC
Benzene, 2-ethyl-1,4-dimethyl-	0.538414713	C10H14	10	14	1	USA	HC
o-Cymene	0.133906264	C10H14	10	14	1	USA	HC
Benzene, 2-ethenyl-1,3,5-trimethyl-	0.53638072	C11H14	11	14	1	USA	HC
1,3,5-Cycloheptatriene, 7,7-dimethyl-	0.065476661	C9H12	9	12	1	USA	HC
8,9,10,11-Tetrahydrobenz[a]anthracene	0.009177714	C18H16	18	16	4	USA	HC
Bicyclo[3.1.1]heptane, 2,6,6-trimethyl-, (1 α ,2 β ,5 α)-	0.010441957	C13H22	13	22	2	SA	HC
Benzene, 1,2,4-trimethyl-	0.447056413	C9H12	9	12	1	USA	HC
Bicyclo[4.1.0]heptane, 3,7,7-trimethyl-	0.011078188	C12H22S2	12	22	2	SA	S
Bicyclo[4.1.0]heptane, 7-pentyl-	0.007138888	C12H22	12	22	2	SA	HC
Phenanthrene, 2,7-dimethyl-	0.023918977	C16H14	16	14	3	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-1,1-dimethyl-	0.147868533	C12H16	12	16	2	USA	HC
9H-Fluorene, 2,3-dimethyl-	0.028946655	C15H14	15	14	3	USA	HC
Carbazole, 2,4,7-trimethyl-	0.007470545	C15H15N1	15	15	3	USA	N
Carbazole, 4,5-dimethyl-	0.063795979	C14H13N1	14	13	3	USA	N
Naphthalene, 1,2,3,4-tetrahydro-1,8-dimethyl-	0.064053562	C12H16	12	16	2	USA	HC
9H-Tribenzo[a,c,e]cycloheptene	0.016322607	C19H14	19	14	4	USA	HC
Benz[a]anthracene, 7-methyl-	0.013104733	C19H14	19	14	4	USA	HC
cis,trans-3-Ethylbicyclo[4.4.0]decane	0.010208421	C12H22	12	22	2	SA	HC
cis-Decalin, 2-syn-methyl-	0.01274217	C11H20	11	20	2	SA	HC
Cyclobutane, tetrakis(1-methylethylidene)-	0.031210135	C16H24	16	24	1	SA	HC
Benzene, 1-ethyl-2-methyl-	0.737516941	C9H12	9	12	1	USA	HC
Cyclohexane, (2-ethyl-1-methylbutylidene)-	0.006110383	C13H24	13	24	1	SA	HC
Cyclohexane, (cyclopentylmethyl)-	0.020261325	C12H22	12	22	2	SA	HC
Cyclohexane, 1-(1,5-dimethylhexyl)-4-(4-methylpentyl)-	0.004138672	C20H40	20	40	1	SA	HC
Cyclohexane, 1-ethyl-2-propyl-	0.035158342	C11H22	11	22	1	SA	HC
Cyclohexane, 1-methyl-3-propyl-	0.046610643	C10H10	10	10	1	SA	HC
Cyclohexane, 3-ethyl-5-methyl-1-propyl-	0.015402526	C12H24	12	24	1	SA	HC
Cyclohexane, butyl-	0.047146232	C10H20	10	20	1	SA	HC
Cyclohexane, eicosyl-	0.032199542	C26H52	26	52	1	SA	HC
Cyclohexane, hexyl-	0.037991796	C12H24	12	24	1	SA	HC
Cyclohexane, methyl-	0.087882104	C7H14	7	14	1	SA	HC
Cyclohexane, octyl-	0.038658796	C14H28	14	28	1	SA	HC
Benzene, 1-ethyl-3-methyl-	0.163158214	C9H12	9	12	1	USA	HC
Pyrene, 1,3-dimethyl-	0.391780195	C18H14	18	14	4	USA	HC
9H-Fluorene, 9,9-dimethyl-	0.00554034	C15H14	15	14	3	USA	HC
Cyclopenta(cd)pyrene, 3,4-dihydro-	0.002042499	C18H12	18	12	5	USA	HC
Cyclopentane, 1,3-dimethyl-2-(1-methylethenyl)-, (1 α ,2 α ,3 β)-	0.014310698	C10H18	10	18	1	SA	HC
Cyclopentane, 1-hexyl-3-methyl-	0.076178975	C12H24	12	24	1	SA	HC
Cyclopentane, 1-methyl-3-(2-methylpropyl)-	0.279239828	C10H20	10	20	1	SA	HC
Cyclopentane, heneicosyl-	0.052611141	C26H52	26	52	1	SA	HC
Cyclopentane, hexyl-	0.032420576	C11H22	11	22	1	SA	HC
Benzene, 1-ethyl-4-methyl-	0.00125856	C9H12	9	12	1	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-2,3-dimethyl-	0.026685244	C12H16	12	16	2	USA	HC
Cyclopropane, propyl-	0.025650976	C6H12	6	12	1	SA	HC

Pentadecane, 3-methyl-	0.11534839	C16H34	16	34	0		HC
1-Heptadecyne	0.021593796	C17H32	17	32	0		HC
Dodecane, 2,6,10-trimethyl-	0.065000885	C15H32	15	32	0		HC
Dodecane, 2,6,11-trimethyl-	0.020946775	C15H32	15	32	0		HC
Dodecane, 2,7,10-trimethyl-	0.018908068	C15H32	15	32	0		HC
Pentadecane	0.458621329	C15H32	15	32	0		HC
Tetradecane, 2-methyl-	0.097271222	C15H32	15	32	0		HC
Anthracene, 9,10-dihydro-2-methyl-	0.064173809	C15H14	15	14	3	USA	HC
Dibenzo[c,f]pyrazino[1,2-a]azepine, 1,2,3,4,10,14b-hexahydro-2-methyl-	0.009228956	C18H20N2	18	20	4	USA	N
Naphthalene, 1,2,3,4-tetrahydro-2,7-dimethyl-	1.762800174	C12H16	12	16	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-5,6-dimethyl-	0.609711473	C12H16	12	16	2	USA	HC
Dispiro[2.0.2.5]undecane, 8-methylene-	0.0055445	C12H18	12	18	3	SA	HC
Anthracene, 1,2,3,4-tetrahydro-	0.465070232	C14H14	14	14	3	USA	HC
Tetradecane, 3-methyl-	0.136696129	C15H32	15	32	0		HC
2,4,6,8-Tetramethyl-1-undecene	0.036503489	C15H30	15	30	0		HC
Tetradecane	0.296356825	C14H30	14	30	0		HC
Tridecane, 2-methyl-	0.088022387	C14H30	14	30	0		HC
Tridecane, 3-methyl-	0.149475586	C14H30	14	30	0		HC
3-Tetradecene, (Z)-	0.077328424	C14H28	14	28	0		HC
Dodecane, 2-cyclohexyl-	0.064870914	C18H36	18	36	1	SA	HC
Decane, 2,5,6-trimethyl-	0.030877622	C13H28	13	28	0		HC
Decane, 5-propyl-	0.168076334	C13H28	13	28	0		HC
Dodecane, 2-methyl-	0.0949438	C13H28	13	28	0		HC
Dodecane, 3-methyl-	0.107803097	C13H28	13	28	0		HC
Tridecane	0.22498999	C13H28	13	28	0		HC
Undecane, 2,6-dimethyl-	0.039452938	C13H28	13	28	0		HC
Benzene, propyl-	0.086865794	C9H12	9	12	1	USA	HC
Naphthalene, 5-ethyl-1,2,3,4-tetrahydro-	0.55753817	C12H16	12	16	2	USA	HC
4H-Benz[de]anthracene, 5,6-dihydro-	0.237528001	C17H14	17	14	4	USA	HC
Chrysene	0.005708895	C18H12	18	12	4	USA	HC
Acenaphthylene, 1,2,2a,3,4,5-hexahydro-	0.068839917	C12H14	12	14	3	USA	HC
1H-Indene, 1-(phenylmethylene)-	0.106634026	C16H12	16	12	3	USA	HC
Undecane, 3,6-dimethyl-	0.03687945	C13H28	13	28	0		HC
Undecane, 4-ethyl-	0.146622829	C13H28	13	28	0		HC
1,13-Tetradecadiene	0.015443999	C14H26	14	26	0		HC
2-Tridecene, (Z)-	0.024682715	C13H26	13	26	0		HC
Decane, 4-ethyl-	0.099350395	C12H26	12	26	0		HC
Dodecane	0.148456603	C12H26	12	26	0		HC
Undecane, 2-methyl-	0.069421834	C12H26	12	26	0		HC
Undecane, 3-methyl-	0.043423308	C12H26	12	26	0		HC
2,4-Dimethylstyrene	0.030715044	C10H12	10	12	1	USA	HC
1-Nonene, 4,6,8-trimethyl-	0.01055607	C12H24	12	24	0		HC
Imidazo[5,1-f][1,2,4]triazine-2,7-diamine, 4,5-dimethyl-	0.001143122	C7H10N6	7	10	2	USA	N
Naphthalene, 6-ethyl-1,2,3,4-tetrahydro-	0.103871016	C12H16	12	16	2	USA	HC
exo-7-(2-Propenyl)bicyclo[4.2.0]oct-1(2)-ene	0.010687624	C11H16	11	16	2	USA	HC
Naphthalene, 1-phenyl-	0.067201	C16H12	16	12	3	USA	HC
1,1'-Biphenyl, 3-(1-methylethyl)-	0.620022499	C15H15	15	15	2	USA	HC
1,N-Dimethyl-2-phenylethylamine, pentafluorobenzoyl-	0.001361155	C17H14	17	14	2	USA	HC

di-p-Tolylacetylene	0.002263049	C16H14	16	14	2	USA	HC
α -Methylstilbene	0.22983824	C15H14	15	14	2	USA	HC
1,1'-Biphenyl, 2,4'-dimethyl-	0.31832435	C14H14	14	14	2	USA	HC
1,1'-Biphenyl, 2-ethyl-	0.169063337	C14H14	14	14	2	USA	HC
1,1'-Biphenyl, 3,4'-dimethyl-	0.549847009	C14H14	14	14	2	USA	HC
4-Ethylbiphenyl	0.583200554	C14H14	14	14	2	USA	HC
4,6,8-Trimethylazulene	0.479197021	C13H14	13	14	2	USA	HC
Naphthalene, 1,4,5-trimethyl-	2.985715866	C13H14	13	14	2	USA	HC
Naphthalene, 1,4,6-trimethyl-	0.554255111	C13H14	13	14	2	USA	HC
Naphthalene, 1,6,7-trimethyl-	0.005589306	C13H14	13	14	2	USA	HC
Naphthalene, 1-propyl-	0.276677176	C13H14	13	14	2	USA	HC
Naphthalene, 2-(1-methylethyl)-	0.017988456	C13H14	13	14	2	USA	HC
1,4-Ethanonaphthalene, 1,2,3,4-tetrahydro-	0.016138706	C12H14	12	14	2	USA	HC
1H-Indene, 2,3-dihydro-4,7-dimethyl-	0.364770608	C11H14	11	14	2	USA	HC
2,2-Dimethylindene, 2,3-dihydro-	0.378762989	C11H14	11	14	2	USA	HC
2-Ethyl-2,3-dihydro-1H-indene	0.343140712	C11H14	11	14	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	0.325790775	C11H14	11	14	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	1.337321501	C11H14	11	14	2	USA	HC
3a,6-Methano-3aH-indene, 2,3,4,5,6,7-hexahydro-	0.072249622	C10H14	10	14	2	USA	HC
Naphthalene, 1,8-di-1-propynyl-	0.016344475	C16H12	16	12	2	USA	HC
1,1'-Biphenyl, 3-methyl-	0.008517647	C13H12	13	12	2	USA	HC
1,1'-Biphenyl, 4-methyl-	2.169773295	C13H12	13	12	2	USA	HC
1-Isopropenyl-naphthalene	0.048137418	C13H12	13	12	2	USA	HC
Benzene, [1-(2,4-cyclopentadien-1-ylidene)ethyl]-	0.005352117	C13H12	13	12	2	USA	HC
Naphthalene, 1-(2-propenyl)-	0.982643319	C13H12	13	12	2	USA	HC
1H-Indene, 1-phenyl-	0.032010757	C15H12	15	12	3	USA	HC
Benzene, 2,5-cyclohexadien-1-yl-	0.008699319	C12H12	12	12	2	USA	HC
Naphthalene, 2-(1,1-dimethylethyl)decahydro-4a-methyl-	0.002176575	C15H28	15	28	2	SA	HC
Naphthalene, 1,7-dimethyl-	3.236834669	C12H12	12	12	2	USA	HC
7H-Benzo[c]fluorene	0.08050347	C17H12	17	12	4	USA	HC
Naphthalene, 1-ethyl-	0.67626803	C12H12	12	12	2	USA	HC
Naphthalene, 2-butyldecahydro-	0.013294099	C14H26	14	26	2	SA	HC
1H-Indene, 2,3-dihydro-4-methyl-	0.324811725	C10H12	10	12	2	USA	HC
1H-Indene, 2,3-dihydro-5-methyl-	0.228399336	C10H12	10	12	2	USA	HC
Naphthalene, 1,2,3,4-tetrahydro-	0.470411751	C10H12	10	12	2	USA	HC
Diphenylacetylene	0.004230924	C14H10	14	10	2	USA	HC
Biphenyl	0.473571258	C12H10	12	10	2	USA	HC
Naphthalene, 2-methyl-	1.699863085	C11H10	11	10	2	USA	HC
Naphthalene, 1,2-dihydro-	0.001080497	C10H10	10	10	2	USA	HC
Naphthalene, decahydro-, trans-	0.042370261	C10H18	10	18	2	SA	HC
Naphthalene, decahydro-2,3-dimethyl-	0.021000729	C12H22	12	22	2	SA	HC
Naphthalene, decahydro-2,6-dimethyl-	0.070946439	C12H22	12	22	2	SA	HC
Indane	0.130518966	C9H10	9	10	2	USA	HC
Benzene, 1-ethenyl-3-ethyl-	0.180712459	C10H12	10	12	1	USA	HC
1-Undecene, 5-methyl-	0.054032467	C12H24	12	24	0		HC
4-Nonene, 2,3,3-trimethyl-, (E)-	0.002798767	C12H24	12	24	0		HC
4-Nonene, 2,3,3-trimethyl-, (Z)-	0.001673409	C12H24	12	24	0		HC
4-Octene, 2,2,3,7-tetramethyl-, [S-(E)]-	0.003837698	C12H24	12	24	0		HC

4-Octene, 2,3,6,7-tetramethyl-	0.001222789	C12H24	12	24	0		HC
Decane, 2-methyl-	0.042933545	C11H24	11	24	0		HC
Decane, 3-methyl-	0.042126569	C11H24	11	24	0		HC
Benzene, 1,3-dimethyl-	0.343724851	C8H10	8	10	1	USA	HC
Decane, 5-methyl-	0.055503627	C11H24	11	24	0		HC
Ethylbenzene	0.051734947	C8H10	8	10	1	USA	HC
Anthracene, 1-methyl-	3.051723062	C15H12	15	12	3	USA	HC
Pyrene, 1-methyl-	0.627145492	C17H12	17	12	4	USA	HC
o-Xylene	0.32663125	C8H10	8	10	1	USA	HC
Octane, 2,3,7-trimethyl-	0.016946109	C11H24	11	24	0		HC
Octane, 2,4,6-trimethyl-	0.070481495	C11H24	11	24	0		HC
Octane, 5-ethyl-2-methyl-	0.05786719	C11H24	11	24	0		HC
Toluene	0.207905038	C7H8	7	8	1	USA	HC
Undecane	0.084664741	C11H24	11	24	0		HC
p-Ethyl-(adamantyl-1)benzene	0.009592483	C18H24	18	24	5	USA	HC
Anthracene, 2-methyl-	0.002493133	C15H12	15	12	3	USA	HC
Phenanthrene, 4-methyl-	0.00386156	C15H12	15	12	3	USA	HC
9H-Fluorene, 2-methyl-	1.010863872	C14H12	14	12	3	USA	HC
9H-Fluorene, 3-methyl-	0.513733851	C14H12	14	12	3	USA	HC
Anthracene, 9,10-dihydro-	0.01682517	C14H12	14	12	3	USA	HC
Phenanthrene	1.016950859	C14H10	14	10	3	USA	HC
Fluorene	0.242613849	C13H10	13	10	3	USA	HC
Acenaphthene	0.111824633	C12H10	12	10	3	USA	HC
Acphenanthrylene, 4,5-dihydro-	0.056722032	C16H12	16	12	4	USA	HC
8,9-Dihydrocyclopenta[def]phenanthrene	0.002167705	C15H12	15	12	4	USA	HC
Fluoranthene	0.01762832	C16H10	16	10	4	USA	HC
Pyrene	0.50659188	C16H10	16	10	4	USA	HC
Pyridine, 2-(phenylmethyl)-	0.001592353	C12H11N1	12	11	2	USA	N
Quinoline, decahydro-2,5-dipropyl-	0.003533115	C15H29N1	15	29	2	SA	N
Azulene	0.270259848	C10H8	10	8	2	USA	HC
Sulfide, bis(3,5-dimethylbenzyl)	0.002194105	C18H22S1	18	22	2	USA	S
Decane	0.130797215	C10H22	10	22	0		HC
1-Undecyne	0.001207814	C11H20	11	20	0		HC
3,9-Dodecadiyne	0.005650296	C12H18	12	18	0		HC
1-Octene, 6-methyl-	0.01296452	C9H18	9	18	0		HC
Benzene	0.02496069	C6H6	6	6	1	USA	HC
Trans, trans-2-ethylbicyclo[4.4.0]decane	0.020248153	C12H22	12	22	2	SA	HC
trans-1,4-Di-tert-butyl-cyclohexane	0.028443603	C14H28	14	28	1	SA	HC
Trans-1-methyl-2-nonyl-cyclohexane	0.049190506	C16H32	16	32	1	SA	HC
trans-Decalin, 2-methyl-	0.05041884	C11H20	11	20	2	SA	HC
1,5-Heptadiene, 2,6-dimethyl-	0.018363168	C9H16	9	16	0		HC
1-Nonyne	0.003372416	C9H16	9	16	0		HC
Hexane, 3-methyl-	0.051381451	C7H16	7	16	0		HC
2,8-Decadiyne	0.016048024	C10H14	10	14	0		HC
1,4-Pentadiene, 2,3,4-trimethyl-	0.001742411	C8H14	8	14	0		HC
3-Heptyne, 5-methyl-	0.002786815	C8H14	8	14	0		HC
4-Methyl-1,5-Heptadiene	0.004996241	C8H14	8	14	0		HC
6-Methyl-2-heptyne	0.001096403	C8H14	8	14	0		HC

n-Hexane	0.019454516	C6H14	6	14	0		HC
1-Pentyne, 4-methyl-	0.001674239	C6H10	6	10	0		HC
Spiro[2,4]hepta-4,6-diene	0.026817141	C7H8	7	8	2	USA	HC