

Table 1. Masses of catalyst and Pyrolysis Oil Feed as well as Masses and Properties of Products from Hydrotreating Experiments. See descriptions of catalysts in experimental section. Miscibility is rated as insoluble (I = 0) slightly soluble (SS = 0.5) soluble (S = 1) and very soluble (VS = 2). Left column is miscibility in heptane and right column in toluene. Volatiles were determined by proximate analysis. Moisture was determined by Karl Fischer titration of liquids and moisture loss from solids. Data with gray background were estimated, not measured. “Coke” was estimated from (Sol. Resid. - Catalyst). For experiments where mid-experiment bottom samples were collected (Bott.Spl.), the coke estimate was increased slightly by assuming that the bottom sample had the same amount of catalyst as the original mixture (“Catalyst” and “Feed”).

1 = Ni-L	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol:
Catalyst	27.3											
Feed	303.6											
AQ&Org Prod. A	2.8	81.21			20.2	10.1	10.7	75.1	79.6	4.3	1.9	
Org Prod. B	14.4	67.58	0.5	0	96.1	68.6	10.7	19	3.9	15.5	10.3	
Aq. Prod. B	74.7	81.21			20.2	10.1	10.7	75.1	79.6	4.3	1.9	
Org Prod. C	13.2	129.8	0.5	0.5	93	64.9	10	24	6.7	18.0	9.3	
Aq. Prod. C	77.9	133.3			24.5	12.2	10.6	77.7	75.5	10.6	2.2	
Org Prod. D	20.2	32.39	2	2	97.1	77.8	10.8	11	2	9.2	10.6	
Aq. Prod. D	15.1	37.64			9.4	4.5	11	84.6	90.7	4.0	0.9	
Overflow	1.9	67.58			96.1	68.6	10.7	19	3.9	15.5	10.3	
Sol. Resid.	31.3				15.3	14.8	1.8	10.6	0.3	10.3	1.8	
Liq. Resid.	63.8			2	84.9	80.2	8.8	10.6	0.4	10.2	8.8	
Org. Composite	113.5	30.6			89.6	76.3	9.6	13.4	1.9	11.7	9.4	1.5

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Overflow	1.1	105			93.8	67	10.1	22	6	16.7	9.4
Bott.Spl.1	1.1	105			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Bott.Spl.2	0.2	105			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Sol. Resid.	44				14.1	20.5	2	13.5	2.6	11.2	1.7
Liq. Resid.	61.9	0	2	2	97.6	86.9	11.7	2	0.1	1.9	11.7
Aq. Resid.	12.7	0			68.7	27.8	12	61.8	31.8	33.5	8.5
Org. Composite		15			97.1	82.5	11.7	5.8	1.3	4.7	11.6 1.7

*Because of the different procedure used in this run "A" is a combination of "A" and "B", "B" is equivalent to "C" and "C" is equivalent to "D" that would have been produced from the standard procedure

	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
2 = Ni-H												
Catalyst	27.6											
Feed	305.3											
Org Prod. B	30.8	25	1	1	99.5	78.4	12.7	9.4	1	8.5	12.6	
Aq. Prod. B	37.5	39			16.4	7.4	11.2	79.6	84.9	4.1	1.8	
Org Prod. C	19.8	24	2	2	98.8	81.3	11.5	7.8	0.9	7.0	11.4	
Aq. Prod. C	69.2	3			7.2	2.7	11.1	83.8	94.3	0.0	0.6	
Org Prod. D	18.1	0	2	2	99.7	86.3	12.1	1.8	0.2	1.6	12.1	
Aq. Prod. D	46.8	7			3	0.5	11.2	86.2	97.8	-0.7	0.3	
Overflow	3	25			99.5	78.4	12.7	9.4	1	8.5	12.6	
Bott.Spl.1	3.3	25			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Bott.Spl.2	2.1	25			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Sol. Resid.	32.8				6.9	6.5	2.3	15.4	6.6	9.5	1.6	
Liq. Resid.	23.9	0	2	2	99.7	88	12	0.2	0	0.2	12.0	
Liq. Resid.	8.9	0			12.1	5.6	11.2	81.9	89	2.8	1.3	
Org. Composite	101.0	14.4			97.0	80.7	11.9	7.7	2.3	5.6	11.7 1.7	

	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
3 = Pd1-L												
Catalyst	15.2											
Feed	303.1											
AQ&Org Prod. A	0.4											
Org Prod. B	6.3	33.28			96.3	68.8	10.9	19.8	3.7	16.5	10.5	
Aq. Prod. B	13.7	48.76			27.6	13.4	11	75.8	72.4	11.4	3.0	
Org Prod. C	5.4	68.69			96.3	68.8	10.9	19.8	3.7	16.5	10.5	
Aq. Prod. C	89.5	101.1			18.6	9.7	10.7	80	81.4	7.6	1.7	

Org Prod. D	15.6	105.5			94.1	67.8	10.1	22	5.9	16.8	9.4
Aq. Prod. D	62.2	159.7			28.9	14.2	10.4	75.6	71.1	12.4	2.5
Overflow	0.7	68.69			96.3	68.8	10.9	19.8	3.7	16.5	10.5
Bott.Spl.1	0.5	33.28			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Bott.Spl.2	0.4	33.28			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Sol. Resid.	19.5				12.9	83.3	2.6	5.5	0.8	4.8	2.5
Liq. Resid.	102.4	13.75			93.9	76.2	9.3	14.6	0.4	14.2	9.3
Aq. Resid.											
Org. Composite	131.3	28.3			93.9	74.3	9.5	16.2	1.6	14.8	9.4 1.5

6 = Pd1-M	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.7											
Feed	301.5											
Org Prod. A	1.7	52	0.5	0.5	97.2	70.8	11.1	17.2	2.8	14.7	10.8	
AQ Prod. A	2.9	79			25.2	9.7	10.9	80.5	75.7	13.2	2.5	
Org Prod. B	14.1	52	0.5	0.5	97.2	70.8	11.1	17.2	2.8	14.7	10.8	
Aq. Prod. B	78.2	79			25.2	9.7	10.9	80.5	75.7	13.2	2.5	
Org Prod. C	15.4	85	0.5	2	95	69.2	10.4	19.6	4.6	15.5	9.9	
Aq. Prod. C	74.6	125			25.8	11.3	10.7	78.3	75.3	11.4	2.3	
Org Prod. D	19.7	59	2	2	97.2	75.5	11.3	13.2	2.4	11.1	11.0	
Aq. Prod. D	19.1	108			18.3	8.6	10.9	80.9	82.3	7.7	1.8	
Overflow	2.8	50			97.2	70.8	11.1	17.2	2.8	14.7	10.8	
Bott.Spl.1	7.9	50			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Bott.Spl.2	6.7	50			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Sol. Resid.	36.9				10.9	84.7	3.6	2.7		2.7	3.6	
Liq. Resid.	48.1		0.5	2	98.6	80.5	10.6	8.8	0.5		10.5	
Aq. Resid.			0	0								
Org. Composite	116.4	35.8			92.0	71.7	10.4	17.4	5.8	8.8	9.8 1.6	

4 = Pd1-H	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30											
Feed	300.9											
Org Prod. A	1.8	24.07			97.7	73	11.3	15.1	2.4	13.0	11.0	
AQ Prod. A	2.1	41.03			20.9	9.1	10.8	79.9	79.8	9.0	1.9	
Org Prod. B	21.6	54.09	1	1	97.7	73	11.3	15.1	2.4	13.0	11.0	
Aq. Prod. B	69.5	91.06			20.9	9.1	10.8	79.9	79.8	9.0	1.9	
Org Prod. C	22.7	69.71	1	1	97.4	74.4	10.9	13.6	2.3	11.6	10.6	

Aq. Prod. C	69.9	115.9			19.4	8.2	10.8	80.5	81.6	8.0	1.7
Org Prod. D	10.3	36.54	1	1	98.7	79.6	11.5	8.5	1.1	7.5	11.4
Aq. Prod. D	16	86.83			13.7	5.7	10.9	81.6	87.3	4.0	1.2
Overflow	3.7	48.44			97.7	73	11.3	15.1	2.4	13.0	11.0
Bott.Spl.1	0.7	54.09			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Bott.Spl.2	1.8	54.09			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Sol. Resid.	37.2				8.6	86.2	2.6	2.2	1.2	1.1	2.5
Liq. Resid.	43.4	2.35	0.5	2	99	82.5	11.3	5.2	0.6	4.7	11.2
Aq. Resid.											
Org. Composite	106.0	33.8			97.2	77.1	11.1	10.9	2.2	8.9	10.9 1.7

11 = Pd2-L	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.4											
Feed	301.7											
Org Prod. A	1.2	60.2			96.3	69.2	10.4	18.6	4	15.0	10.0	
AQ Prod. A	0									0.0	0.0	
Org Prod. B	9.3	60.2	0.5	0.5	96.3	69.2	10.4	18.6	4	15.0	10.0	
Aq. Prod. B	83.2	81.3			23.9	11.8	10.6	76.8	77.1	8.3	2.0	
Org Prod. C	16.6	110	0.5	0.5	92.6	64.3	9.9	24.5	7.4	17.9	9.1	
Aq. Prod. C	75	140.2			30	15	10.4	74	70.6	11.2	2.6	
Org Prod. D	16.1	82	1	1	96.3	71.5	10.8	16.7	3.9	13.2	10.4	
Aq. Prod. D	7.2	100.5			23.1	12	10.7	76.5	77.5	7.6	2.1	
Overflow	1	60.2			96.3	69.2	10.4	18.6	4	15.0	10.0	
Bott.Spl.1	1	60.2			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Bott.Spl.2	0.7	60.2			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Sol. Resid.	37.8				12.4	86.1	2.6	3.8		3.8	2.6	
Liq. Resid.	59.7	9.4	0	0.5	96	78	10.1	12.7	0.7	12.1	10.0	
Org. Composite	105.6	42.6			94.9	73.3	10.2	16.4	3.1	13.6	9.8 1.6	

14 = Pd2-M	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.3											
Feed	311											
Org Prod. A	1.6	58			96.4	68.7	11.2	20	3.6	16.8	10.8	
AQ Prod. A	1.3	68			19.8	9.5	10.8	79	80.2	7.7	1.9	
Org Prod. B	18.7	58	0.5	0.5	96.4	68.7	11.2	20	3.6	16.8	10.8	
Aq. Prod. B	72.1	68			19.8	9.5	10.8	79	80.2	7.7	1.9	
Org Prod. C	14.9	90	0.5	0.5	94.5	67.8	11.3	10.7	5.1	6.2	10.7	

Aq. Prod. C	77.7	110			21.1	10.8	10.8	78	78.9	7.9	2.0
Org Prod. D	24.6	15	1	1	98.5	80.1	12.4	7	0.9	6.2	12.3
Aq. Prod. D	21.5	35			11.9	6.8	11.3	81	88.1	2.7	1.5
Overflow	1.9	58			96.4	68.7	11.2	20	3.6	16.8	10.8
Bott.Spl.1	3.3	58			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Bott.Spl.2	1.4	58			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Sol. Resid.	37.1					85.8	3	1	0.7	0.4	2.9
Liq. Resid.	13.5		2	2	99.3	86.2	12.6	1	0.1	0.9	12.6
Aq./org Resid.	43.8	0	0.5	0.5	81.6	52	10.9	36	17.6	20.4	8.9
Org. Composite		40.9			94.6	73.4	11.6			9.1	11.1 1.8

9 = Pd2-H	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30											
Feed	297.7											
AQ Prod. A	4.8	51			35.7	18	11	70	65.4	11.9	3.7	
Org Prod. B	22.3	61.34	1	1	97.3	72.1	11.1	15.5	2.6	13.2	10.8	
Aq. Prod. B	63.9	92.8			21.3	9.7	10.6	80.2	80.1	9.0	1.7	
Org Prod. C	13.9	81.36	1	1	96.8	73.3	10.8	16.1	3.1	13.3	10.5	
Aq. Prod. C	43.6	115.7			20.1	8.8	11	81.1	80.9	9.2	2.0	
Org Prod. D	22.7	50.55	1	1	98.8	78.9	11.8	8.8	1	7.9	11.7	
Aq. Prod. D	34.7	102.7			17.7	7.1	10.9	82.1	84	7.4	1.6	
Overflow	0.9	61.34			97.3	72.1	11.1	15.5	2.6	13.2	10.8	
Bott.Spl.1	3.5	61.34			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Bott.Spl.2	1.6	61.34			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Sol. Resid.	35.9				12.1	87.9	3	1.6		1.6	3.0	
Liq. Resid.	38.6	5.639	2	2	99	85.1	11.6	2.9	0.2	2.7	11.6	
Aq. Resid.	2.6	49.71			17.7	7.1	10.9	82.1	84	7.4	1.6	
Org. Composite	103.5	40.9			96.0	77.1	11.2	11.1	2.9	8.5	10.9 1.7	

10 = Pt-L	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.1											
Feed	302.7											
AQ&Org Prod. A	0									0.0	0.0	
Org Prod. B	15.8	65.3	0.5	0.5	96.9	68.9	11.3	17.6	3.6	14.4	10.9	
Aq. Prod. B	66.1	74.7			24.8	11.5	10.7	78.1	76.1	10.5	2.2	
Org Prod. C	22.4	119.4	0.5	0.5	93.9	69	10.4	19.6	5.5	14.7	9.8	

Aq. Prod. C	67	138.1			24.5	10.7	10.4	79.8	77.3	11.1	1.8
Org Prod. D	0										
Aq. Prod. D	0										
Overflow	0.5	65.3			96.9	68.9	11.3	17.6	3.6	14.4	10.9
Bott.Spl.1	2.9	65.3			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Bott.Spl.2	1	65.3			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Sol. Resid.	37.8				13.2	86	2.7	4.5		4.5	2.7
Liq. Resid.	78.1	0	0	0.5	88.7	76.1	9.3	13.2	3.1	10.4	9.0
Aq. Resid.											
Org. Comp.	120.7	33.1			89.6	72.7	9.7	16.1	4.6	12.1	9.2 1.52

7 = Pt-M1	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.1											
Feed	301.3											
Org Prod. A*	9.1	24	0	0	93	63.5	11.6	23.4	7.4	16.8	10.8	
AQ Prod. A*	9.8	26			42.1	19.8	11.2	68.7	58.7	16.5	4.7	
Org Prod. B	8.4	76	1	0.5	96.3	70.9	11.1	17.1	3.2	14.3	10.7	
Aq. Prod. B	82	93			20.7	9.6	10.7	78.7	80	7.6	1.8	
Org Prod. C	11.6	84	2	2	97.7	75.1	11.2	13	2.1	11.1	11.0	
Aq. Prod. C	30	110			17.8	7.5	10.7	81.2	82.9	7.5	1.5	
Org Prod. D	15.8	7	2	2	99.6	84.3	12.6	3	0.3	2.7	12.6	
Aq. Prod. D	15.1	6			7.6	3.1	11	84.9	92.9	2.3	0.7	
Overflow	8.5	88			96.3	70.9	11.1	17.1	3.2	14.3	10.7	
Sol. Resid.	37.5				13.8	87.7	3.6	1.9		1.9	3.6	
Liq. Resid.	27.2		2	2	99.7	87.2	12.6	0.6	0.1	0.5	12.6	
Aq. Resid.												
Org. Composite	80.6	33.4			97.9	78.8	12.0	8.9	1.9	7.2	11.8	1.8

*Condenser change was late so "A" is a combination of "A" and "B" fractions that would have been produced by the standard procedure

8 = Pt-M2	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.8											
Feed	298.7											
AQ&Org Prod. A	5	25			64.8	40.5	11.4	49.4	36	17.4	7.4	
Org Prod. B	21	60.6	0.5	0.5	97.6	69.9	11.7	15.4	3.2	12.6	11.3	
Aq. Prod. B	59.5	74.5			24.3	11.2	10.9	77	77	8.6	2.3	
Org Prod. C	15.2	104	0.5	0.5	96.9	71.3	11.2	16	3.2	13.2	10.8	

Aq. Prod. C	58.6	124			21.9	9.5	10.8	78.1	79.8	7.2	1.9
Org Prod. D	21.2	20	2	2	100.1	83.3	12.9	4.1	0.3	3.8	12.9
Aq. Prod. D	18.4	31.8			12.6	4.5	11.1	79.5	89.2	0.2	1.2
Overflow	0.3	60.6			97.6	69.9	11.7	15.4	3.2	12.6	11.3
Sol. Resid.	36.8				13.5	87.6	3.5	2.1		2.1	3.5
Liq. Resid.	27.9	0	2	2	100.1	86.8	12.8	0.8	0.2	0.6	12.8
Aq. Resid.											
Org. Composite	22.2	38.5			98.9	79.0	12.3	7.9	1.5	6.6	12.1 1.8

16 = Pt-H	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.2											
Feed	302.1											
Org Prod. A	3.9	44			96.8	70.6	12.5	17	3.2	14.2	12.1	
Org Prod. B	22.3	44	0.5	0.5	97.5	72.4	12.1	15	2.5	12.8	11.8	
Aq. Prod. B	51.4	57			20.6	10.3	11.1	78	79.4	7.4	2.3	
Org Prod. C	15.6	23	0.5	1	98.7	80	11.8	8	1	7.1	11.7	
Aq. Prod. C	44.5	32			6.4	3.2	11.3	85	93.6	1.8	0.9	
Org Prod. D	11.1	0	2	2	100	86.6	13.1		0	0.0	13.1	
Aq. Prod. D	26.6	7			2.1	0.4	11.4	88	97.9	1.0	0.5	
Overflow	3.3	44			97.5	72.4	12.1	15	2.5	12.8	11.8	
Bott.Spl.1	3.5	44			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Bott.Spl.2	1.2	44			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Sol. Resid.	33.5					87.3	3.1	2	0.2	1.8	3.1	
Liq. Resid.	17.5	0	2	2	100	87	13	0.6	0	0.6	13.0	
Aq./org Resid.	2.2	0			30.7	17.1	11	72	69.3	10.4	3.3	
Org. Composite	78.4	23.8			96.0	77.3	12.1	10.4	3.1	7.6	11.8 1.8	

12 = Ru-L	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.9											
Feed	301.5											
Org Prod. A	0.6	31.9			95.9	67.4	10.7	19.4	4.7	15.2	10.2	
AQ Prod. A	0											
Org Prod. B	9.1	62.4	1	0.5	95.9	67.4	10.7	19.4	4.7	15.2	10.2	
Aq. Prod. B	70.6	68.5			23.5	11.1	11.1	76.2	77.6	7.2	2.5	
Org Prod. C	6.4	78.7	0.5	1	93.6	65.3	9.9	23.7	6.2	18.2	9.2	
Aq. Prod. C	85	89.5			28.2	13.9	10.7	75.1	72.5	10.7	2.6	
Org Prod. D	29	80.9	0.5	0.5	92.8	65	10.1	22.4	7.5	15.7	9.3	

Aq. Prod. D	23.3	100.4			36.2	17.8	10.4	71.3	65.8	12.8	3.1
Overflow	3.8	90.7			95.9	67.4	10.7	19.4	4.7	15.2	10.2
Bott.Spl.1	2.4	31.9			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Bott.Spl.2	1.1	31.9			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Sol. Resid.	32.9				14	87	3	6.5		6.5	3.0
Liq. Resid.	42.9	0	0	1	95.2	80.1	10.1	10.5	1.3	9.3	10.0
Aq. Resid.											
Org. Composite	95.3	40.9			92.9	71.3	10.1	17.7	5.2	13.1	9.5 1.6

15 = Ru-M	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.3											
Feed	297.9											
Org Prod. A	5.1	37			87.3	59.1	11.7	29	12.6	17.8	10.3	
Org Prod. B	16.8	52	0.5	0.5	97.1	71	11.9	17.1	2.9	14.5	11.6	
Aq. Prod. B	74	71			20	10.3	11.1	78	80	6.9	2.2	
Org Prod. C	15.4	81	0.5	0.5	94.7	68.5	10.5	21	4.9	16.6	10.0	
Aq. Prod. C	77.3	102			22.4	11.1	10.8	78.1	77.6	9.1	2.2	
Org Prod. D	17.6	5	1	2	99	82	12	6	0.7	5.4	11.9	
Aq. Prod. D	15.6	18			6	2.9	11.3	85	94	1.4	0.9	
Overflow	1.5	52			97.1	71	11.9	17.1	2.9	14.5	11.6	
Bott.Spl.1	3.3	31.9			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Bott.Spl.2	0.5	31.9			53.1	41.7	7.6	49.1	32.8	19.9	4.0	
Sol. Resid.	30.4					87.5	2.1	1.2	0.1	1.1	2.1	
Liq. Resid.	31.9	0	2	2	98.6	85.9	11.8	2	0.2	1.8	11.8	
Aq./org Resid.	2.1	0			98.7	86.8	12	1	0.1	0.9	12.0	
Org. Composite	20.1	27.6			95.3	76.2	11.5	12.1	3.6	9.0	11.1 1.7	

13 = Ru-H	mass (g)	CAN (mg/g)	miscibility 0=I, 0.5=SS, 1=S, 2=VS		volatile % prox.	C %	H %	DirO %	H2O % KF or moist- ure	Org O %	Org H %	Org C:H mol: mol
Catalyst	30.1											
Feed	302.7					42						
Org Prod. A	4.1	15.9	0.5	0	96.7	72	12.7	14	3.4	11.0	12.3	
AQ Prod. A	4.6	25.8			19.9	9.7	10.7	78.6	81.5	6.2	1.6	
Org Prod. B	18.5	31.6	1	1	98.5	77.2	12.4	10.1	1.3	8.9	12.3	
Aq. Prod. B	47.7	61.7			19.9	9.7	10.7	78.6	81.5	6.2	1.6	
Org Prod. C	15.4	46.2	1	1	97.9	78	11.3	10.5	1.3	9.3	11.2	
Aq. Prod. C	87	79.4			13	6	10.9	83	88.2	4.6	1.1	
Org Prod. D	17.8	0	2	2	99.2	84.9	12	3.9	0.3	3.6	12.0	

Aq. Prod. D	37.9	11.2			1.6	1.3	11.2	86.7	98.4	-0.8	0.3
Overflow	2.3	58.24			98.5	77.2	12.4	10.1	1.3	8.9	12.3
Bott.Spl.1	3.3	31.9			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Bott.Spl.2	0.5	31.9			53.1	41.7	7.6	49.1	32.8	19.9	4.0
Sol. Resid.	38.4				10.6	88.9	3	2.6		2.6	3.0
Liq. Resid.	16.2	0	2	2	99.4	86.9	12.3	1.2	0.1	1.1	12.3
Aq. Resid.	6.3	0	0.5	0.5	47.4	24.8	10.7	65	53.6	17.4	4.7
Org. Composite	15.3	20.7			96.4	79.1	11.9	9.0	2.5	6.8	11.6 1.8

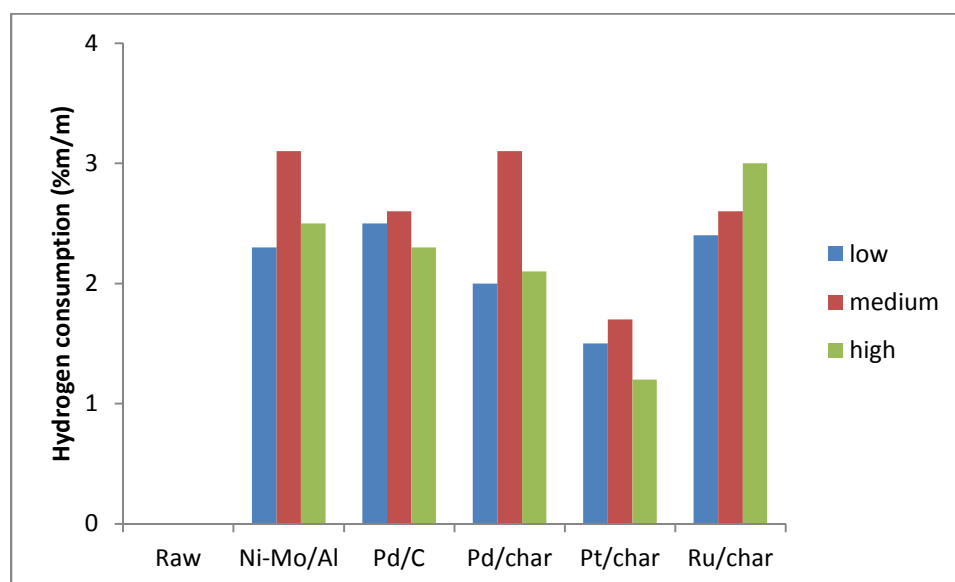


Figure 1. Hydrogen Consumed During Hydrotreatment of Pyrolysis oils—As calculated from elemental analysis of reactants and products.

Table 1. GC/MS results

Experiment 2 Condensate BC
Corrected

Pk#	RT	Area%	Library/ID	CAS#
1	2.21		Ethanol	000064-17-5
2	2.27		Ethanol	000064-17-5
3	2.57	0.75	2-Propanone, 1-hydroxy-	000116-09-6
4	2.63	2.31	Cyclobutane, methyl-	000598-61-8
5	2.79	9.63	Hexane	000110-54-3
6	3.21		Chloroform	000067-66-3

7	3.26		Chloroform	000067-66-3
8	3.37	8.79	Cyclohexane	000110-82-7
9	3.47		Chloroform	000067-66-3
10	3.58	2.97	Cyclohexene	000110-83-8
11	3.65	2.22	1-Fluorooctane	000463-11-6
12	3.79	3.71	Heptane	000142-82-5
13	3.85	2.17	Cyclopentene, 4,4-dimethyl-	019037-72-0
14	4.05	1.46	Ethane, 1,2,2-trichloro-1,1-difluoro-	000354-21-2
15	4.21	4.60	Cyclohexane, methyl-	000108-87-2
16	4.41	1.45	Cyclopentane, ethyl-	001640-89-7
17	4.53	1.79	Cyclohexene, 1-methyl-	000591-49-1
18	4.84	0.73	Cyclobutane, (1-methylethylidene)-	001528-22-9
19	4.89	0.59	3,4-Heptadiene	002454-31-1
20	5.17	0.85	Toluene	000108-88-3
21	5.25	3.35	Cyclohexene, 4-methyl-	000591-47-9
22	5.46	0.73	Cyclohexane, 1,3-dimethyl-, trans-	002207-03-6
23	5.68	2.27	3-Hexanone	000589-38-8
24	5.83	2.46	Piperazine, 1-methyl-	000109-01-3
25	6.01	0.96	3-Octanol	000589-98-0
26	6.10	1.10	4-Octene, (E)-	014850-23-8
27	6.19	0.96	Propane, 1,3-dimethoxy-2,2-dimethyl-	020637-32-5
28	7.11	0.60	Cyclohexene, 3,5-dimethyl-	000823-17-6
29	7.45	3.00	Cyclohexane, ethyl-	001678-91-7
30	7.64	0.52	Methyl ethyl cyclopentene	019780-56-4
31	8.17	1.00	Cyclohexene, 1-ethyl-	001453-24-3
32	8.67	0.30	Ethylbenzene	000100-41-4
33	9.02	2.35	Cyclohexene, 1-ethyl-	001453-24-3
34	9.20	0.78	Cyclohexene, 1,2-dimethyl-	001674-10-8
35	10.33	1.46	Heptane, 2,4-dimethyl-	002213-23-2
36	10.59	0.81	cis-1-Ethyl-3-methyl-cyclohexane	019489-10-2
37	11.08	0.67	Bicyclo[2.2.1]heptane, 2-ethyl-	002146-41-0
38	11.37	0.24	3-Cyclohexene-1-carboxaldehyde, 1-methyl-	000931-96-4
39	11.57	0.97	Cyclohexane, propyl-	001678-92-8
40	11.75	0.66	Cyclopentane, butyl-	002040-95-1
41	12.47	0.50	trans-1-Butenylcyclopentane	1000113-50-9
42	12.58	0.39	Benzene, propyl-	000103-65-1
43	12.77	0.93	Cyclohexene,1-propyl-	002539-75-5
44	12.91	0.40	Benzene, 1-ethyl-2-methyl-	000611-14-3
45	13.75	0.54	Phenol	000108-95-2
46	13.91	0.34	Cyclohexane, 1-propenyl-	005364-83-0
47	14.42	0.77	Decane, 1,1'-oxybis-	002456-28-2
48	14.85	0.44	1H-Indene, 2,3,4,5,6,7-hexahydro-	1000197-58-6
49	15.72	0.85	Benzene, cyclopropyl-	000873-49-4

50	16.24	0.44	Cyclohexane, 1,2-diethenyl-, cis-	001004-84-8
51	16.46	1.56	Phenol, 3-methyl-	000108-39-4
52	17.19	1.03	Phenol, 2-methyl-	000095-48-7
53	18.22	0.54	Phenol, 2,6-dimethyl-	000576-26-1
54	19.11	0.28	n-Amylcyclohexane	029949-27-7
55	19.25	1.29	Phenol, 2-ethyl-	000090-00-6
56	19.56	1.96	Phenol, 2,3-dimethyl-	000526-75-0
57	20.00	1.02	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
58	20.13	0.33	Phenol, 4-ethyl-	000123-07-9
59	20.21	1.13	Phenol, 3-ethyl-	000620-17-7
60	20.68	1.63	Azulene	000275-51-4
61	20.96	0.98	Phenol, 2,3-dimethyl-	000526-75-0
62	21.14	4.81	Dodecane	000112-40-3
63	21.28	0.65	Cyclopentane, 2-methyl-1-methylene-3-(1-methylethenyl)-	056710-83-9
64	21.94	0.57	1H-Indene,2,3-dihydro-2,2-dimethyl-	020836-11-7
65	22.29	1.51	Phenol, 2-ethyl-5-methyl-	001687-61-2
66	22.89	1.90	2-Dimethylamino-3-methylpyridine	1000145-43-7
67	23.11	1.03	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
68	23.87	1.24	2,5-Diethylphenol	000876-20-0
69	24.39	0.83	Naphthalene, 1-methyl-	000090-12-0
70	24.78	0.87	2-Methyl-6-propylphenol	003520-52-3

Experiment 2 Condensate D

Corrected				
Pk#	RT	Area%	Library/ID	CAS#
1	2.21		Ethanol	000064-17-5
2	2.27		Ethanol	000064-17-5
3	2.62	0.92	2,2,4,5-Tetramethyl-[1,3]dioxolane	1000192-85-7
4	2.69	0.92	Carbonochloridic acid, propyl ester	000109-61-5
5	2.79	5.72	Hexane	000110-54-3
6	3.21		Chloroform	000067-66-3
7	3.37	6.35	Cyclohexane	000110-82-7
8	3.47		Chloroform	000067-66-3
9	3.78	1.42	Heptane	000142-82-5
10	4.21	5.79	Cyclohexane, methyl-	000108-87-2
11	5.17	1.30	Toluene	000108-88-3
12	5.28	0.95	Hexane, 3-ethyl-	000619-99-8
13	5.45	1.45	Cyclohexane, 1,3-dimethyl-, cis-	000638-04-0
14	6.10	2.05	Cyclohexane, 1,2-dimethyl-	000583-57-3
15	6.32	1.00	Cyclohexane, 1,3-dimethyl-, trans-	002207-03-6
16	7.45	3.93	Cyclohexane, ethyl-	001678-91-7
17	8.67	0.64	Ethylbenzene	000100-41-4
18	9.01	1.86	p-Xylene	000106-42-3

19	9.76	1.06	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
20	10.02	1.27	Benzene, 1,3-dimethyl-	000108-38-3
21	10.33	0.92	Nonane	000111-84-2
22	10.58	1.47	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
23	11.56	2.99	Cyclohexane, propyl-	001678-92-8
24	12.58	1.00	Benzene, propyl-	000103-65-1
25	12.91	1.65	Benzene, 1-ethyl-2-methyl-	000611-14-3
26	13.62	0.65	Benzene, 1-ethyl-3-methyl-	000620-14-4
27	13.72	0.83	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
28	13.91	1.29	1H-Indene, octahydro-, cis-	004551-51-3
29	14.15	1.03	Benzene, 1,3,5-trimethyl-	000108-67-8
30	14.41	1.42	1-Dotriacontanol	006624-79-9
31	15.25	0.98	Benzene, 1,2,3-trimethyl-	000526-73-8
32	15.57	0.83	Cyclohexane, butyl-	001678-93-9
33	15.72	1.09	Benzene, 2-propenyl-	000300-57-2
34	15.80	0.58	1H-Indene, octahydro-5-methyl-	019744-64-0
35	16.32	1.52	Benzene, (1-methylpropyl)-	000135-98-8
36	16.47	1.03	Phenol, 3-methyl-	000108-39-4
37	16.85	0.67	Benzene, 1-methyl-2-propyl-	001074-17-5
38	17.21	0.73	Phenol, 3-methyl-	000108-39-4
39	17.53	0.81	Indan, 1-methyl-	000767-58-8
40	17.98	1.53	Bicyclo[4.1.0]heptane, 3,7,7-trimethyl-, [1S-(1.alpha.,3.alpha.,6.alpha.)]-	006069-97-2
41	18.21	0.59	Benzene, 1-ethyl-2,3-dimethyl-	000933-98-2
42	19.11	0.72	Cyclohexane, pentyl-	004292-92-6
43	19.26	2.26	Benzene, 1-methyl-4-(2-propenyl)-	003333-13-9
44	19.62	2.01	Benzene, (1-methyl-1-propenyl)-, (E)-	000768-00-3
45	20.00	1.76	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
46	20.67	1.23	Naphthalene	000091-20-3
47	20.85	2.15	1H-Indene, 2,3-dihydro-1,3-dimethyl-	004175-53-5
48	20.97	1.26	2-Ethyl-2,3-dihydro-1H-indene	056147-63-8
49	21.13	2.12	1H-Indene, 2,3-dihydro-1,2-dimethyl-	017057-82-8
50	21.93	1.74	Benzene, (2-chloro-2-butenyl)-	054411-12-0
51	22.29	1.94	Phenol, 2-ethyl-5-methyl-	001687-61-2
52	22.91	1.76	Benzenemethanol, 3,5-dimethyl-	027129-87-9
53	23.11	2.39	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
54	23.72	0.74	Cyclohexane, 1-ethyl-1-methyl-	004926-90-3
55	23.89	3.42	2-Propenal, 3-methyl-3-phenyl-	1000132-14-7
56	24.17	1.68	1,1'-Bicyclohexyl	000092-51-3
57	24.40	0.78	Naphthalene, 1-methyl-	000090-12-0
58	24.61	1.76	Naphthalene, 1,2,3,4-tetrahydro-2,7-dimethyl-	013065-07-1
59	24.72	0.71	Benzene, 1,3,5-trimethyl-2-(1-methylethenyl)-	014679-13-1
60	25.19	0.67	Heptylcyclohexane	005617-41-4

61	25.59	0.97	1H-Indene, 2,3-dihydro-1,1,3-trimethyl-	002613-76-5
62	26.10	0.71	Naphthalene, 1,2,3,4-tetrahydro-1,5,7-trimethyl-	021693-55-0
63	26.19	0.76	Acenaphthylene, 1,2,2a,3,4,5-hexahydro-	000480-72-8
64	26.56	1.51	Naphthalene, 1,2,3,4-tetrahydro-5,6-dimethyl-	020027-77-4
65	26.65	0.58	Benzene, 4-(2-butenyl)-1,2-dimethyl-, (E)-	054340-86-2
66	27.24	1.17	2-Chloroethyl ethyl disulfide	1000226-67-6
67	27.77	0.60	Naphthalene, 1,4-dimethyl-	000571-58-4
68	28.27	0.73	Benzene, 1-(1-methyl-2-propenyl)-4-(2-methylpropyl)-	057438-46-7
69	30.91	0.84	1H-Indene, 2,3-dihydro-1,1,5,6-tetramethyl-	000942-43-8
70	33.96	0.81	Ethanone, 1-(2,5-dimethoxyphenyl)-	001201-38-3

Experiment 4 Condensate BC

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.21		Ethanol	000064-17-5
2	2.27		Ethanol	000064-17-5
3	2.57	0.70	Acetic acid, methyl ester	000079-20-9
4	2.63	0.70	Cyclobutane, methyl-	000598-61-8
5	2.79	1.28	Hexane	000110-54-3
6	3.21		Chloroform	000067-66-3
7	3.37	5.79	Cyclohexane	000110-82-7
8	3.47		Chloroform	000067-66-3
9	3.59		Chloroform	000067-66-3
10	3.65	2.69	Ethanone, 1-oxiranyl-	004401-11-0
11	3.79	2.16	3-Heptanone, 5-ethyl-4-methyl-	027607-63-2
12	3.84	1.35	Butane, 2,2,3-trimethyl-	000464-06-2
13	3.94	0.95	Furan, 2,5-dimethyl-	000625-86-5
14	4.05	1.31	Hexane, 1-propoxy-	053685-78-2
15	4.21	2.48	Cyclohexane, methyl-	000108-87-2
16	4.41	0.79	Cyclopentane, ethyl-	001640-89-7
17	4.78	0.67	3-Pentanone, 2-methyl-	000565-69-5
18	5.27	1.06	1-Penten-3-ol, 4-methyl-	004798-45-2
19	5.46	0.52	Cyclohexane, 1,2-dimethyl-, trans-	006876-23-9
20	5.68	4.79	3-Hexanone	000589-38-8
21	5.82	4.83	Methyl Isobutyl Ketone	000108-10-1
22	6.10	0.77	Hexane, 3-ethyl-	000619-99-8
23	6.75	0.92	Hexane, 1-propoxy-	053685-78-2
24	7.45	1.62	Cyclohexane, ethyl-	001678-91-7
25	7.80	2.98	Cyclopentanone, 2-methyl-	001120-72-5
26	8.13	0.63	(R)-(+)-3-Methylcyclopentanone	006672-30-6
27	9.02	0.64	Cyclopentene, 1-ethenyl-3-methylene-	061142-07-2
28	9.66	0.65	Cyclooctane, methyl-	001502-38-1
29	9.81	1.61	3-Heptanone	000106-35-4

30	10.00	1.00	Hexane, 3-methyl-4-methylene-	003404-67-9
31	10.10	1.19	Cyclohexanone	000108-94-1
32	10.33	1.15	Formaldehyde, (2-butenyl)methylhydrazone	068661-51-8
33	11.09	0.73	3-Octyne, 2-methyl-	055402-15-8
34	11.56	1.31	Cyclohexanone, 2,3-dimethyl-	013395-76-1
35	11.74	0.85	1-Nonene	000124-11-8
36	12.00	0.81	Cyclopentanone, 2-ethyl-	004971-18-0
37	12.35	1.02	Cyclohexanone, 2-methyl-	000583-60-8
38	12.91	0.57	Benzene, 1-ethyl-2-methyl-	000611-14-3
39	13.42	0.91	4-Octanone	000589-63-9
40	13.75	1.02	Phenol	000108-95-2
41	14.40	1.25	3-Nonene	020063-77-8
42	14.58	0.56	Cyclohexane, 1,2,3-trimethyl-, (1.alpha.,2.alpha.,3.alpha.)-	001839-88-9
43	14.65	0.57	Cyclohexane, 1,2,3-trimethyl-	001678-97-3
44	15.72	0.80	Indane	000496-11-7
45	15.88	0.87	Cyclohexanone, 2-ethyl-	004423-94-3
46	16.36	0.72	Cyclohexane, (2-methyl-1-propenyl)-	089656-98-4
47	16.46	1.70	Phenol, 2-methyl-	000095-48-7
48	17.17	2.96	Phenol, 4-methyl-	000106-44-5
49	18.22	0.95	Phenol, 2,3-dimethyl-	000526-75-0
50	18.85	1.20	Bicyclo[3.1.1]heptan-2-one, 6,6-dimethyl-, (1R)-	038651-65-9
51	19.11	0.65	Cyclohexane, (1-methylpropyl)-	007058-01-7
52	19.26	1.57	Phenol, 2-ethyl-	000090-00-6
53	19.56	3.18	Phenol, 2,4-dimethyl-	000105-67-9
54	20.00	2.07	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
55	20.13	1.39	Phenol, 4-ethyl-	000123-07-9
56	20.21	1.26	Phenol, 3-ethyl-	000620-17-7
57	20.69	0.61	Phenol, 2-ethyl-4-methyl-	003855-26-3
58	20.95	2.28	Phenol, 2,4-dimethyl-	000105-67-9
59	21.14	7.08	Dodecane	000112-40-3
60	21.28	1.26	Phenol, 2,4,6-trimethyl-	000527-60-6
61	22.29	2.43	Phenol, 2-ethyl-5-methyl-	001687-61-2
62	22.84	2.25	Phenol, 4-propyl-	000645-56-7
63	23.11	1.14	Phenol, 2,4,6-trimethyl-	000527-60-6
64	23.44	0.81	Phenol, 2,3,6-trimethyl-	002416-94-6
65	23.87	2.17	Phenol, 2-methyl-5-(1-methylethyl)-	000499-75-2
66	24.38	1.05	Phenol, 2-ethyl-4,5-dimethyl-	002219-78-5
67	24.77	1.45	Phenol, 4-(1-methylpropyl)-	000099-71-8
68	25.13	0.67	1H-Inden-1-ol, 2,3-dihydro-	006351-10-6
69	25.71	1.25	2,4,6-Trimethyl-1,3-phenylenediamine	003102-70-3
70	26.19	1.36	1-Propanone, 1-(4-methoxyphenyl)-	000121-97-1

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.27		Ethanol	000064-17-5
2	2.79	4.03	Hexane	000110-54-3
3	3.21		Chloroform	000067-66-3
4	3.37	4.88	Cyclohexane	000110-82-7
5	3.47		Chloroform	000067-66-3
6	3.66		Chloroform	000067-66-3
7	3.79	1.87	Heptane	000142-82-5
8	4.21	3.94	Cyclohexane, methyl-	000108-87-2
9	4.41	0.90	Cyclopentane, ethyl-	001640-89-7
10	5.28	0.66	Oxetane, 2-ethyl-3-methyl-	053778-62-4
11	5.46	1.20	Cyclohexane, 1,3-dimethyl-, trans-	002207-03-6
12	5.68	1.01	3-Hexanone	000589-38-8
13	5.83	1.56	Cyclopentane, 1-ethyl-3-methyl-, cis-	002613-66-3
14	6.10	1.76	2-Octene, (E)-	013389-42-9
15	6.33	0.72	Cyclohexane, 1,4-dimethyl-, cis-	000624-29-3
16	7.45	3.40	Cyclohexane, ethyl-	001678-91-7
17	9.02	0.56	Benzene, 1,3-dimethyl-	000108-38-3
18	9.67	0.69	Cyclopentane, 1-ethyl-2-methyl-, cis-	000930-89-2
19	9.76	0.80	1-Ethyl-4-methylcyclohexane	003728-56-1
20	10.01	0.80	Cyclohexane, 1,4-dimethyl-	000589-90-2
21	10.33	1.02	Nonane	000111-84-2
22	10.58	1.07	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
23	11.56	2.59	Cyclohexane, propyl-	001678-92-8
24	11.74	0.79	Cyclopentane, butyl-	002040-95-1
25	13.30	0.58	Nonane, 3-methyl-	005911-04-6
26	13.74	1.78	Phenol	000108-95-2
27	13.91	1.04	1H-Indene, octahydro-, cis-	004551-51-3
28	14.41	1.68	2-Heptenal, 2-methyl-	030567-26-1
29	15.57	0.94	Cyclohexane, butyl-	001678-93-9
30	15.72	0.70	Indane	000496-11-7
31	16.33	0.91	Cyclodecene	003618-12-0
32	16.46	1.69	Phenol, 2-methyl-	000095-48-7
33	17.17	3.78	Phenol, 4-methyl-	000106-44-5
34	17.98	1.05	17-Pentatriacontene	006971-40-0
35	18.21	0.57	Phenol, 2,6-dimethyl-	000576-26-1
36	19.11	0.88	Cyclohexane, pentyl-	004292-92-6
37	19.25	1.81	Phenol, 2-ethyl-	000090-00-6
38	19.56	3.85	Phenol, 2,4-dimethyl-	000105-67-9
39	20.00	1.82	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
40	20.13	1.91	Phenol, 4-ethyl-	000123-07-9
41	20.21	2.45	Phenol, 3-ethyl-	000620-17-7

42	20.68	0.79	Phenol, 2-ethyl-6-methyl-	001687-64-5
43	20.86	1.05	Cyclododecane	000294-62-2
44	20.95	2.61	Phenol, 3,5-dimethyl-	000108-68-9
45	21.13	1.56	Dodecane	000112-40-3
46	21.28	1.01	Phenol, 2,4,6-trimethyl-	000527-60-6
47	21.65	0.64	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	003877-19-8
48	21.94	1.18	Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	001559-81-5
49	22.28	2.97	Phenol, 2-ethyl-5-methyl-	001687-61-2
50	22.85	1.91	Phenol, 4-propyl-	000645-56-7
51	23.11	2.74	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
52	23.25	0.70	Phenol, 2,3,6-trimethyl-	002416-94-6
53	23.44	1.76	Phenol, 2,3,6-trimethyl-	002416-94-6
54	23.72	0.59	Cyclopropane, 1-(diethylaminocarbonyl)-2,2-dimethyl-	1000154-89-6
55	23.89	3.49	Benzene, (1-methyl-1-butenyl)-	053172-84-2
56	24.37	1.21	Benzenemethanol, 4-(1-methylethyl)-	000536-60-7
57	24.59	1.16	Naphthalene, 1,2,3,4-tetrahydro-2,7-dimethyl-	013065-07-1
58	24.72	0.58	Naphthalene, 1,2,3,4-tetrahydro-1,4-dimethyl-	004175-54-6
59	24.77	1.87	2-Methyl-6-propylphenol	003520-52-3
60	25.29	1.62	4-Chromanol	001481-93-2
61	25.60	1.27	Ethanone, 1-(6,6-dimethylbicyclo[3.1.0]hex-2-en-2-yl)-	024555-40-6
62	26.21	0.74	Benzene, 1-methoxy-4-(1-methylpropyl)-	004917-90-2
63	26.56	1.18	Naphthalene, 1,2,3,4-tetrahydro-6,7-dimethyl-	001076-61-5
64	26.64	0.94	1H-Indene, 2,3-dihydro-1,1,3-trimethyl-	002613-76-5
65	27.37	1.22	Benzene, (2,2-dimethyl-1-methylenepropyl)-	005676-29-9
66	27.87	0.67	1,3-Cyclopentadiene, 5,5-dimethyl-1,2-Dipropyl-	1000163-88-0
67	28.26	0.76	Benzene, 1-(1,1-dimethylethyl)-3,5-dimethyl-	000098-19-1
68	30.38	0.80	Azulene, 4,6,8-trimethyl-	000941-81-1
69	30.58	0.57	Naphthalene, 6-butyl-1,2,3,4-tetrahydro-	030654-45-6
70	30.91	0.66	1,3,5-Cycloheptatriene, 3,4-diethyl-7,7-dimethyl-	1000156-99-7

Experiment 6 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.40	0.77	Nitrous Oxide	010024-97-2
2	2.68	0.00	Acetone	000067-64-1
3	2.76	0.00	Methylene Chloride	000075-09-2
4	2.92	8.39	Methylene Chloride	000075-09-2
5	4.74	1.37	Methyl Isobutyl Ketone	000108-10-1
6	6.55	1.15	2-Pentanone, 4-hydroxy-4-methyl-	000123-42-2
7	8.26	0.87	Cyclohexane, propyl-	001678-92-8
8	9.10	0.68	Phenol	000108-95-2
9	9.47	1.04	Decane	000124-18-5
10	10.40	1.53	Phenol, 3-methyl-	000108-39-4

11	10.52	0.64	Bicyclo[2.2.1]heptane, 2,2,3-trimethyl-, endo-	020536-40-7
12	10.73	2.72	Phenol, 4-methyl-	000106-44-5
13	11.07	0.68	1-Phenyl-1-butene	000824-90-8
14	11.32	0.68	Phenol, 2,3-dimethyl-	000526-75-0
15	11.75	0.72	Phenol, 2-ethyl-	000090-00-6
16	11.92	3.28	Phenol, 2,3-dimethyl-	000526-75-0
17	12.22	3.95	Phenol, 3-ethyl-	000620-17-7
18	12.29	1.88	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
19	12.39	0.77	Phenol, 2,3-dimethyl-	000526-75-0
20	12.55	1.10	Phenol, 2-ethyl-5-methyl-	001687-61-2
21	12.61	3.53	Phenol, 3,4-dimethyl-	000095-65-8
22	12.69	1.61	Dodecane	000112-40-3
23	12.83	1.35	Phenol, 2,4,6-trimethyl-	000527-60-6
24	13.11	2.13	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	003877-19-8
25	13.24	1.19	Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	001559-81-5
26	13.28	2.67	Phenol, 4-ethyl-2-methyl-	002219-73-0
27	13.34	2.85	Cyclohexane, butyl-	001678-93-9
28	13.55	4.79	Phenol, 4-propyl-	000645-56-7
29	13.71	1.12	Phenol, 2,3,5-trimethyl-	000697-82-5
30	13.78	0.99	Phenol, 2,4,6-trimethyl-	000527-60-6
31	13.82	3.10	Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	001680-51-9
32	14.04	0.69	Cyclopentene, 3,5-dimethoxy-	089897-05-2
33	14.11	1.58	Phenol, 2-methyl-5-(1-methylethyl)	000499-75-2
34	14.22	3.64	Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	001680-51-9
35	14.32	2.27	Phenol, 2-(1,1-dimethylethyl)-	000088-18-6
36	14.54	3.44	Benzene, 1-methoxy-4-propyl-	000104-45-0
37	14.78	3.59	Ethanone, 1-(6,6-dimethylbicyclo[3.1.0]hex-2-en-2-yl)-	024555-40-6
38	15.03	2.46	2,4,6-Trimethyl-1,3-phenylenediamine	003102-70-3
39	15.22	0.74	1,5,6,7-Tetramethylbicyclo[3.2.0]hept-6-en-3-one	120345-87-1
40	15.31	3.39	Naphthalene, 6-ethyl-1,2,3,4-tetrahydro- 1,4-Ethanonaphthalen-2-ol, 1,2,3,4-tetrahydro-, (1.alpha.,2.beta.,4.alpha.)-	022531-20-0
41	15.40	1.57		013153-78-1
42	15.55	2.74	Naphthalene, 1,2,3,4-tetrahydro-5,7-dimethyl-	021693-54-9
43	15.94	2.37	2,5-Diethylphenol	000876-20-0
44	16.17	3.33	3,4-Dimethylbenzamide	005580-33-6
45	16.24	1.25	Naphthalene, 1,2,3,4-tetrahydro-1,5,7-trimethyl-	021693-55-0
46	16.45	0.82	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
47	16.69	1.83	Pyrazine, trimethyl-1-propenyl-, (Z)-	055138-75-5
48	16.96	2.27	Naphthalene, 6-butyl-1,2,3,4-tetrahydro-	030654-45-6
49	17.37	1.27	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
50	17.79	3.18	2,5-Dimethyl-3-phenylfuran	019842-57-0

Experiment 7 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.40	4.59	Nitrous Oxide	010024-97-2
2	2.69	0.00	Acetone	000067-64-1
3	2.76	2.67	2-Butene, 2-methyl-	000513-35-9
4	2.92	0.00	Methylene Chloride	000075-09-2
5	4.76	0.69	Methyl Isobutyl Ketone	000108-10-1
6	7.45	0.47	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
7	7.82	1.00	1-Ethyl-4-methylcyclohexane	003728-56-1
8	8.26	2.21	Cyclohexane, propyl-	001678-92-8
9	9.23	1.71	Cyclohexane, 1-ethyl-1-methyl-	004926-90-3
10	9.47	1.61	Decane	000124-18-5
11	9.54	0.99	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
12	9.86	0.89	Cyclohexane, 1-methyl-4-(1-methylethylidene)-	001124-27-2
13	10.09	1.12	Cyclohexane, butyl-	001678-93-9
14	10.52	1.20	Cyclohexane, 1-methyl-3-(1-methylethenyl)-, cis-	024399-15-3
15	10.96	0.53	Cyclohexane, 1-methyl-3-propyl-	004291-80-9
16	11.07	0.84	Cyclohexane, 1-ethyl-1,4-dimethyl-, cis-	062238-30-6
17	11.32	1.11	trans-Decalin, 2-methyl-	1000152-47-3
18	11.47	3.33	trans-Decalin, 2-methyl-	1000152-47-3
19	11.74	3.23	Naphthalene, decahydro-2-methyl-	002958-76-1
20	11.83	0.47	Cyclopentane, hexyl-	004457-00-5
21	12.27	1.43	Spiro[4.5]decan-2-one	003643-16-1
22	12.35	1.92	Naphthalene, decahydro-1,5-dimethyl-	066552-62-3
23	12.55	5.25	Naphthalene, decahydro-2,6-dimethyl-	001618-22-0
24	12.64	1.15	Triallylsilane	001116-62-7
25	12.70	1.56	Bicyclo[3.3.1]nonane-2,7-dione	1000210-30-3
26	13.25	2.02	trans, cis-3-Ethylbicyclo[4.4.0]decane	066660-43-3
27	13.34	3.30	Cyclohexane, hexyl-	004292-75-5
28	13.56	1.18	cis,trans-1,9-Dimethylspiro[5.5]undecane	1000111-73-3
29	14.04	2.49	2-Butyl-3,4,5,6-tetrahydropyridine	1000145-07-2
30	14.09	1.73	Carane, 4,5-epoxy-, (E)-	006909-20-2
31	14.20	3.44	3a,7a-Epoxy-1H-inden-4(5H)-one, tetrahydro-	039746-31-1
32	14.26	1.95	3-(But-3-enyl)-cyclohexanone	1000145-07-5
33	14.37	4.22	1,1'-Bicyclohexyl	000092-51-3
34	14.56	0.72	Spiro[4.4]nonane-1,6-dione	027723-43-9
35	14.79	2.70	3,7-Dimethyl-octa-1,6-diene	1000190-46-4
36	15.07	4.29	Isojasmone	011050-62-7
37	15.22	3.45	1,1'-Bicyclohexyl, 2-ethyl-, cis-	050991-12-3
38	15.37	1.71	Cyclohexene, 1-octyl-	015232-87-8
39	15.48	0.80	Triallylsilane	001116-62-7
40	16.08	3.04	Amorphane	034315-85-0
41	16.49	3.63	1-Cyclohexyl-1-(4-methylcyclohexyl)ethane	1000215-44-5

42	16.78	6.14	Perhydrophenanthrene, (4a.alpha.,4b.beta., 8a.alpha., 10a.beta.)-	002108-89-6
43	17.23	2.36	7-Pentadecyne	022089-89-0
44	17.38	4.25	(-)-E-Pinane	033626-25-4
45	17.45	6.59	1-Hexadecyne	000629-74-3

Experiment 8 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.40	9.78	Carbamic acid, monoammonium salt	001111-78-0
2	2.68	0.00	Acetone	000067-64-1
3	2.76	2.11	2-Butene, 2-methyl-	000513-35-9
4	2.92	0.00	Methylene Chloride	000075-09-2
5	3.31	1.30	Chloroform	000067-66-3
6	11.48	1.47	trans-Decalin, 2-methyl-	1000152-47-3
7	11.75	1.54	cis-Decalin, 2-syn-methyl-	1000155-85-6
8	12.35	0.99	cis,trans-1,10-Dimethylspiro[4.5]decane	1000111-72-3
9	12.55	2.12	cis,trans-1,10-Dimethylspiro[4.5]decane	1000111-72-3
10	12.71	0.76	Cyclododecene, (E)-	001486-75-5
11	13.25	1.05	trans, cis-3-Ethylbicyclo[4.4.0]decane	066660-43-3
12	13.34	1.67	Cyclohexane, hexyl-	004292-75-5
13	13.48	0.84	Cyclododecene	001501-82-2
14	13.56	0.79	cis,trans-2,9-Dimethylspiro[5.5]undecane	095530-74-8
15	14.04	1.30	3a,7a-Epoxy-1H-inden-4(5H)-one, tetrahydro-	039746-31-1
16	14.09	0.98	Bicyclo[4.1.0]heptane, 3-methyl-7-pentyl-	041977-48-4
17	14.20	1.71	Cyclohexane, 1-methyl-2-pentyl-	054411-01-7
18	14.26	1.02	3,5-Dodecadiene, 2-methyl-	055638-51-2
19	14.38	2.39	1,1'-Bicyclohexyl	000092-51-3
20	14.79	1.63	Cyclododecanemethanol	001892-12-2
21	15.07	2.36	1,1'-Bicyclohexyl, 2-methyl-, trans-	050991-09-8
22	15.22	1.85	Cyclohexane, 1,1'-ethylidenebis-	002319-61-1
23	15.37	0.95	Cyclohexene, 1-octyl-	015232-87-8
24	15.48	0.67	Triallylsilane	001116-62-7
25	15.52	1.43	1,1'-Bicyclohexyl, 2-ethyl-, cis-	050991-12-3
26	15.59	0.65	Cyclohexene, 1,6-dimethyl-	001759-64-4
27	15.68	0.67	1,1'-Bicyclooctyl	006708-17-4
28	15.80	3.00	Perhydrophenanthrene, (4a.alpha.,4b.beta., 8a.alpha., 10a.beta.)-	002108-89-6
29	15.94	3.16	1-Cyclohexylnonene	114614-84-5
30	16.07	3.00	Phenanthrene, tetradecahydro-	005743-97-5
31	16.23	0.75	(2,2,6-Trimethyl-bicyclo[4.1.0]hept-1-yl)-methanol	078996-11-9
32	16.49	1.90	1-Cyclohexyl-1-(4-methylcyclohexyl)ethane	1000215-44-5
33	16.61	1.63	cis,syn,cis-Perhydrophenanthrene	026634-41-3
34	16.78	3.78	Anthracene, tetradecahydro-	006596-35-6

35	17.08	2.85	Perhydrophenanthrene, (4a.alpha.,4b.alpha., 8a.alpha., 10a.beta.)-	027425-35-0
36	17.23	2.09	Cyclohexen, 1,5,5-trimethyl-6-acetomethyl-2(1H)-Naphthalenone, octahydro-4a-methyl-7-(1-methylethyl)-, (4a.alpha.,7.beta.,8a.beta.)-	1000132-12-8
37	17.39	2.90		054594-42-2
38	17.45	4.71	Cis-3-methyl-endo-tricyclo[5.2.1.0(2.6)]decane	1000215-29-0
39	17.61	1.46	7-Pentadecyne	022089-89-0
40	17.69	0.92	Cyclopentane, 1-methyl-1-(2-methyl-2-propenyl)-	074764-47-9
41	17.92	2.42	Cis-3-methyl-endo-tricyclo[5.2.1.0(2.6)]decane	1000215-29-0
42	18.09	1.34	7-Tetradecyne	035216-11-6
43	18.17	1.94	11-Hexadecynal	1000130-85-5
44	18.50	2.31	4,5-Nonadiene, 2-methyl-	055956-32-6
45	18.59	2.17	Tridecanedial	063521-76-6
46	18.66	2.65	7-Tetradecyne	035216-11-6
47	18.72	2.56	1,1'-Bicyclohexyl, 4-methyl-4'-propyl-	092343-70-9
48	18.81	1.68	11-Hexadecynal	1000130-85-5
49	18.99	1.77	Cyclopentadecanone, 2-hydroxy-Cyclodeca[b]furan-2(3H)-one, 3a,4,5,8,9,11a-hexahydro-3,6,10-trimethyl-, [3S-(3R*,3aR*,6E,10E,11aR*)]-	004727-18-8
50	19.05	6.98		002225-79-8

Experiment 9 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.21		Ethanol	000064-17-5
2	2.27		Ethanol	000064-17-5
3	2.58	1.67	Acetic acid, methyl ester	000079-20-9
4	2.79	0.66	Hexane	000110-54-3
5	3.21		Chloroform	000067-66-3
6	3.37		Chloroform	000067-66-3
7	3.47		Chloroform	000067-66-3
8	3.60		Chloroform	000067-66-3
9	3.66	3.81	2-Pentanone	000107-87-9
10	3.79	2.76	Propanal, 2,2-dimethyl-	000630-19-3
11	3.84	2.50	Butane, 2,2,3-trimethyl-	000464-06-2
12	3.94	1.31	Furan, 2,5-dimethyl-	000625-86-5
13	4.01	0.91	Furan, tetrahydro-2,5-dimethyl-	001003-38-9
14	4.05	1.74	Hexane, 1,1'-oxybis-	000112-58-3
15	4.21	2.80	Cyclohexane, methyl-	000108-87-2
16	4.41	0.87	Cyclopentane, ethyl-	001640-89-7
17	4.69	0.47	2H-Pyran, tetrahydro-2-methyl-	010141-72-7
18	4.78	1.53	3-Pentanone, 2-methyl-	000565-69-5
19	5.28	1.48	Oxirane, butyl-	001436-34-6
20	5.46	0.61	Cyclohexane, 1,3-dimethyl-, trans-	002207-03-6
21	5.68	4.77	3-Hexanone	000589-38-8

22	5.82	5.02	Oxirane, 2-methyl-2-(1-methylethyl)-	072221-03-5
23	6.04	0.49	Cyclohexane, 1,2-dimethyl-, cis-	002207-01-4
24	6.76	0.46	Acetic acid, butyl ester	000123-86-4
25	7.45	1.34	Cyclohexane, ethyl-	001678-91-7
26	7.68	0.82	3-Hexanone, 2-methyl-	007379-12-6
27	7.80	5.56	Cyclopentanone, 2-methyl-	001120-72-5
28	8.12	1.11	Cyclopentanone, 3-methyl-	001757-42-2
29	9.01	0.53	p-Xylene	000106-42-3
30	9.66	0.72	Cyclooctane, methyl-	001502-38-1
31	9.81	1.76	3-Heptanone	000106-35-4
32	10.00	1.21	trans-3,4-Dimethylcyclopentanone	019550-73-3
33	10.10	1.55	2-Octene, (Z)-	007642-04-8
34	10.33	1.18	2,5-Dimethyl-3-hexene(c,t)	1000118-16-2
35	10.84	0.67	Cyclohexane, ethyl-	001678-91-7
36	11.10	0.60	Z-10-Pentadecen-1-ol	1000131-00-6
37	11.56	1.78	Cyclohexanone, 2,3-dimethyl-	013395-76-1
38	11.74	1.27	Cyclopentane, butyl-	002040-95-1
39	12.00	1.08	Cyclopentanone, 2-ethyl-	004971-18-0
40	12.34	1.97	Cyclohexanone, 2-methyl-	000583-60-8
41	12.73	0.87	Cyclooctane	000292-64-8
42	12.91	0.69	Benzene, 1-ethyl-2-methyl-	000611-14-3
43	13.33	0.62	Ethanone, 1-(3-ethylcyclobutyl)-	056335-71-8
44	13.42	0.99	4-Octanone	000589-63-9
45	13.91	0.62	1H-Indene, octahydro-, cis-	004551-51-3
46	14.40	0.95	Cyclohexane, 1,2,3-trimethyl-	001678-97-3
47	14.58	0.96	Cyclohexane, 1,2,3-trimethyl-	001678-97-3
48	14.65	0.76	3-Heptene, 2,6-dimethyl-	002738-18-3
49	15.52	0.52	2H-Pyran, tetrahydro-	000142-68-7
50	15.72	0.89	Tetracyclo[3.3.1.0(2,8).0(4,6)]-non-2-ene	1000191-13-7
51	15.87	1.50	Cyclohexanone, 2-ethyl-	004423-94-3
52	16.46	0.86	Phenol, 2-methyl-	000095-48-7
53	17.11	0.45	4-Octanone	000589-63-9
54	17.17	0.97	Phenol, 4-methyl-	000106-44-5
55	18.21	0.68	Phenol, 2,6-dimethyl-	000576-26-1
56	18.85	1.57	Bicyclo[3.1.1]heptan-3-one, 2,6,6-trimethyl-	018358-53-7
57	19.12	0.75	Cyclohexane, methyl-	000108-87-2
58	19.28	1.23	(+)-Bicyclo(5,1,0)octan-2-one	1000144-06-9
59	19.57	1.99	Phenol, 2,3-dimethyl-	000526-75-0
60	20.00	2.76	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
61	20.96	1.22	Phenol, 2,4-dimethyl-	000105-67-9
62	21.14	13.48	Dodecane	000112-40-3
63	21.28	1.13	Phenol, 2,4,6-trimethyl-	000527-60-6
64	22.28	1.35	Phenol, 2-(1-methylethyl)-	000088-69-7

65	23.11	0.74	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
66	23.87	1.30	Phenol, 2,3,5,6-tetramethyl-	000527-35-5
67	24.37	0.61	Ethanone, 1-(2-hydroxy-5-methylphenyl)-	001450-72-2
68	24.78	0.67	2-Methyl-6-propylphenol	003520-52-3
69	25.70	0.75	3,5-Dimethyl-4-hydroxybenzaldehyde	002233-18-3
70	26.18	1.14	Acenaphthylene, 1,2,2a,3,4,5-hexahydro-	000480-72-8

Experiment 9 Condensate D

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.27		Ethanol	000064-17-5
2	2.46		Ethanol	000064-17-5
3	2.79	0.85	Hexane	000110-54-3
4	3.21		Chloroform	000067-66-3
5	3.37	4.70	Cyclohexane	000110-82-7
6	3.48		Chloroform	000067-66-3
7	3.60		Chloroform	000067-66-3
8	3.66		Chloroform	000067-66-3
9	3.79	2.29	Heptane	000142-82-5
10	4.21	4.44	Cyclohexane, methyl-	000108-87-2
11	4.41	1.18	Cyclopentane, ethyl-	001640-89-7
12	5.28	0.71	Octane	000111-65-9
13	5.46	1.37	Cyclohexane, 1,2-dimethyl-	000583-57-3
14	5.69	1.24	3-Hexanone	000589-38-8
15	5.83	2.45	Cyclopentane, 1-ethyl-3-methyl-, trans-	002613-65-2
16	6.10	1.99	Cyclohexane, 1,2-dimethyl-, cis-	002207-01-4
17	6.33	0.91	Cyclohexane, 1,4-dimethyl-, cis-	000624-29-3
18	7.45	4.32	Cyclohexane, ethyl-	001678-91-7
19	7.82	1.13	Cyclohexanone	000108-94-1
20	9.67	0.89	Cyclopentane, 1-ethyl-2-methyl-, cis-	000930-89-2
21	9.76	1.14	1-Ethyl-4-methylcyclohexane	003728-56-1
22	10.01	1.07	Cyclohexane, 1,2-dimethyl-	000583-57-3
23	10.33	0.99	Nonane	000111-84-2
24	10.58	1.51	cis-1-Ethyl-3-methyl-cyclohexane	019489-10-2
25	11.11	0.70	1H-Pyrrole, 2,3-dihydro-1-methyl-	033838-11-8
26	11.57	3.39	Cyclohexane, propyl-	001678-92-8
27	11.74	0.97	Cyclopentane, butyl-	002040-95-1
28	12.35	0.81	Cyclohexanone, 2-methyl-	000583-60-8
29	12.91	0.67	Benzene, 1-ethyl-3-methyl-	000620-14-4
30	13.72	1.24	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
31	13.91	1.15	1H-Indene, octahydro-, cis-	004551-51-3
32	14.41	2.02	2-Pentene, 3-ethyl-4,4-dimethyl-	053907-59-8
33	14.58	0.79	Cyclohexane, 1,2,3-trimethyl-, (1.alpha.,2.alpha.,3.alpha.)-	001839-88-9

34	15.57	1.12	Cyclohexane, butyl-	001678-93-9
35	15.72	0.88	Benzene, cyclopropyl-	000873-49-4
36	16.34	1.16	Cyclodecene	003618-12-0
37	16.46	1.44	Phenol, 2-methyl-	000095-48-7
38	17.16	2.27	Phenol, 4-methyl-	000106-44-5
39	17.98	1.49	9-Oxa-bicyclo[3.3.1]nonane-2,6-dione	020797-79-9
40	18.85	1.31	Cyclodecene, 1-methyl-	066633-38-3
41	19.11	1.07	Cyclohexane, pentyl-	004292-92-6
42	19.25	1.92	Azulene, 1,2,3,3a-tetrahydro-	033877-87-1
43	19.56	3.84	Phenol, 2,4-dimethyl-	000105-67-9
44	20.00	1.79	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
45	20.13	1.05	Phenol, 3-ethyl-	000620-17-7
46	20.21	1.18	Phenol, 3-ethyl-	000620-17-7
47	20.68	1.03	Phenol, 2-ethyl-6-methyl-	001687-64-5
48	20.85	0.98	Cyclopentane, 1-methyl-3-(1-methylethyl)-	053771-88-3
49	20.95	2.05	Phenol, 2,4-dimethyl-	000105-67-9
50	21.13	1.57	Dodecane	000112-40-3
51	21.28	1.20	Phenol, 2,3,5-trimethyl-	000697-82-5
52	21.94	1.23	Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	001559-81-5
53	22.28	2.91	Phenol, 2-ethyl-6-methyl-	001687-64-5
54	22.84	2.88	2-Dimethylamino-3-methylpyridine	1000145-43-7
55	23.11	2.70	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
56	23.25	0.65	Phenol, 2,4,6-trimethyl-	000527-60-6
57	23.44	1.54	2,4,6-Octatriene, 2,6-dimethyl-, (E,Z)-	007216-56-0
58	23.72	0.67	Cyclopropane, 1-(diethylaminocarbonyl)-2,2-dimethyl-	1000154-89-6
59	23.88	3.53	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
60	24.38	1.29	Ethanone, 1-(2-hydroxy-5-methylphenyl)-	001450-72-2
61	24.59	1.13	Naphthalene, 1,2,3,4-tetrahydro-1,4-dimethyl-	004175-54-6
62	24.77	1.84	2-Methyl-6-propylphenol	003520-52-3
63	25.60	1.20	Phenol, 2,3,5,6-tetramethyl-	000527-35-5
64	25.70	0.69	Naphthalene, 6-ethyl-1,2,3,4-tetrahydro-	022531-20-0
65	26.56	1.10	Naphthalene, 1,2,3,4-tetrahydro-6,7-dimethyl-	001076-61-5
66	26.65	0.89	Benzeneacetamide, .alpha.-ethyl-N-formyl-.alpha.-hydroxy-	056440-45-0
67	27.37	1.09	Benzene, 4-(2-butenyl)-1,2-dimethyl-, (E)-	054340-86-2
68	28.26	0.74	1-(4-Hydroxybenzylidene)acetone	003160-35-8
69	30.38	0.99	Azulene, 4,6,8-trimethyl-	000941-81-1
70	30.91	0.68	2,7-Ethanonaphth[2,3-b]oxirene, 1a,2,7,7a-tetrahydro-, (1a.alpha.,2.beta.,7.beta.,7a.alpha.)-	054461-07-3

Experiment 9 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.68	0.00	Acetone	000067-64-1

2	2.91	0.00	Methylene Chloride	000075-09-2
3	7.82	1.09	1-Ethyl-4-methylcyclohexane	003728-56-1
4	8.26	2.48	Cyclohexane, propyl-	001678-92-8
5	9.23	2.10	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
6	9.48	2.31	Decane	000124-18-5
7	9.55	1.25	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
8	10.10	1.56	Cyclohexane, butyl-	001678-93-9
9	10.52	1.72	Cyclohexane, 1-methyl-3-(1-methylethenyl)-, cis- (cis decalin?-RJF)	024399-15-3
10	10.97	1.25	Cyclohexane, 1-methyl-3-propyl-	004291-80-9
11	11.07	1.72	Indan, 1-methyl-	000767-58-8
12	11.16	1.13	Undecane	001120-21-4
13	11.23	1.80	Cyclohexane, 1-ethyl-2-propyl-	062238-33-9
14	11.32	1.47	Cyclohexane, 1-methyl-4-(1-methylethenyl)-, trans-	001124-25-0
15	11.75	1.33	cis-Decalin, 2-syn-methyl-	1000155-85-6
16	11.78	1.10	Cyclohexane, pentyl-	004292-92-6
17	11.92	1.93	Phenol, 2,4-dimethyl-	000105-67-9
18	12.09	1.18	Benzene, (1-methyl-1-propenyl)-, (E)-	000768-00-3
19	12.29	3.05	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
20	12.56	2.72	1H-Pyrazole-1-carboxaldehyde, 4-ethyl-4,5-dihydro-5-propyl-	054411-09-5
21	12.64	2.05	1,7-Dimethyl-4-(1-methylethyl)cyclodecane	000645-10-3
22	12.70	2.39	Dodecane	000112-40-3
23	13.11	2.27	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	003877-19-8
24	13.25	2.50	Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	001559-81-5
25	13.34	3.88	Cyclohexane, hexyl-	004292-75-5
26	13.49	1.13	Cyclododecene, (E)-	001486-75-5
27	13.57	1.35	1H-Indene, 2,3-dihydro-4,7-dimethyl-	006682-71-9
28	13.82	3.49	Naphthalene, 1,2,3,4-tetrahydro-6-methyl- 2,2,3,3-Tetramethylcyclopropanoicacid, 4-methylcyclohexyl ester	001680-51-9
29	14.04	1.65		1000221-97-
30	14.11	1.94	Phenol, p-tert-butyl-	000098-54-4
31	14.22	3.88	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
32	14.34	1.24	Naphthalene, 6-ethyl-1,2,3,4-tetrahydro-	022531-20-0
33	14.38	1.68	1,1'-Bicyclohexyl	000092-51-3
34	14.56	4.32	Naphthalene, 1,2,3,4-tetrahydro-2,7-dimethyl-	013065-07-1
35	14.79	2.29	Heptylcyclohexane	005617-41-4
36	15.07	1.07	1H-Indene, 2,3-dihydro-1,4,7-trimethyl-	054340-87-3
37	15.22	1.21	Cyclododecene, 1-methyl-	023070-53-3
38	15.31	2.65	Phenol, 4-(1,1-dimethylpropyl)-	000080-46-6
39	15.56	3.61	Naphthalene, 1,2,3,4-tetrahydro-5,7-dimethyl-	021693-54-9
40	16.16	3.48	Fluorene, 1,2,3,4,4a,9a-hexahydro-, cis-	001559-97-3
41	16.28	2.63	Naphthalene, 1,2,3,4-tetrahydro-6-propyl-	042775-77-9
42	16.41	1.08	Benzene, 1-(1-methyl-2-propenyl)-4-(2-methylpropyl)-	057438-46-7

43	16.69	1.49	Methyl 2-isopropenyl-4-pentenedithioate	1000146-43-7
44	16.96	1.51	Dispiro[4.2.4.2]tetradeca-6,13-diene	078578-90-2
45	17.25	3.97	Benzene, 1-cyclopenten-1-yl-	000825-54-7
46	17.39	1.47	Phenanthrene, tetradecahydro-	005743-97-5
47	17.47	1.91	1H-Indene, 3-butyl-1-methyl-	111400-84-1
48	17.80	2.13	1-(4-Tolyl)-1-cyclohexene	001821-23-4
49	19.52	2.35	Anthracene, 1,2,3,4,5,6,7,8-octahydro-2H-Benz[e]inden-3-ol, 3,3a,4,5-tetrahydro-3a-methyl-, (3S-cis)-	001079-71-6
50	20.90	2.20		071805-91-9

Experiment 10 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.40	2.22	1-Adamantanemethylamine, .alpha.-methyl-	013392-28-4
2	2.67	0.00	Acetone	000067-64-1
3	2.92	0.00	Methylene Chloride	000075-09-2
4	10.41	1.91	Phenol, 2-methyl-	000095-48-7
5	10.52	0.91	Benzene, (2-methylpropyl)-	000538-93-2
6	10.74	1.57	Phenol, 4-methyl-	000106-44-5
7	11.93	4.83	Phenol, 2,4-dimethyl-	000105-67-9
8	12.09	1.02	1H-Indene, 2,3-dihydro-4-methyl-	000824-22-6
9	12.23	2.60	Phenol, 3-ethyl-	000620-17-7
10	12.29	1.57	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
11	12.40	0.97	Phenol, 2,3-dimethyl-	000526-75-0
12	12.62	4.47	Phenol, 3,4-dimethyl-	000095-65-8
13	12.84	1.43	Phenol, 2,3,5-trimethyl-	000697-82-5
14	13.12	1.81	Phenol, 3-ethyl-5-methyl-	000698-71-5
15	13.28	4.50	Phenol, 4-ethyl-3-methyl-	001123-94-0
16	13.34	2.12	Phenol, 3-ethyl-5-methyl-	000698-71-5
17	13.57	3.31	Phenol, 3-(1-methylethyl)-	000618-45-1
18	13.72	1.33	Phenol, 2,4,5-trimethyl-	000496-78-6
19	13.83	1.76	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
20	14.12	1.53	Thymol	000089-83-8
21	14.23	4.54	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
22	14.32	1.78	Phenol, 2,3,5,6-tetramethyl-	000527-35-5
23	14.54	2.50	Phenol, 4-(1-methylpropyl)-	000099-71-8
24	14.78	2.79	Phenol, 3,5-diethyl-	001197-34-8
25	15.04	3.02	Piperonal	000120-57-0
26	15.11	1.53	Naphthalene, 6-ethyl-1,2,3,4-tetrahydro-	022531-20-0
27	15.32	2.69	Naphthalene, 5-ethyl-1,2,3,4-tetrahydro-	042775-75-7
28	15.41	1.50	Acenaphthylene, 1,2,2a,3,4,5-hexahydro-	000480-72-8
29	15.56	1.19	Naphthalene, 1,2,3,4-tetrahydro-5,6-dimethyl-	020027-77-4
30	15.88	1.71	2,4,6-Cycloheptatrien-1-one, 2-hydroxy-4-(1-methylethyl)-	000499-44-5

31	15.94	3.40	Naphthalene, 2,3-dimethyl-	000581-40-8
32	16.00	5.10	1H-Inden-1-ol, 2,3-dihydro-2-methyl-	017496-18-3
33	16.18	1.95	6-Methyl-4-indanol	020294-32-0
34	16.46	2.09	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
35	16.59	1.02	2-Cyclopenten-1-one, 4-hydroxy-3-methyl-2-(2,4-pentadienyl)-, (Z)-(+)-	000487-67-2
36	16.72	1.07	Benzene, 1,3,5-triethyl-	000102-25-0
37	16.76	2.21	Benzene, 1,3,5-triethyl-	000102-25-0
38	16.85	2.26	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
39	16.97	2.33	Acetamide, N-(4-methylphenyl)-	000103-89-9
40	17.10	1.91	1,3-Cyclohexadiene, 1,2,6,6-tetramethyl-	000514-96-5
41	17.37	1.35	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
42	17.64	1.12	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
43	17.80	1.00	trans-2,6-Dimethyl-b-methyl-b-nitrostyrene	147102-59-8
44	17.98	2.47	Fluorene	000086-73-7
45	18.13	0.98	4,5,6,7-Tetramethylphthalide	029002-54-8
46	18.21	1.00	Diphenylmethane	000101-81-5
47	18.28	1.79	Iron,methyldicarbonyl-.pi.-cyclopentadienyl	012080-06-7
48	19.14	1.45	Cyclopropene, 1,3-dimethyl-2,3-bis(trifluoromethyl)-	054932-73-9
49	19.37	1.16	1H-Cyclodecapyrazole, 4,5,6,7,8,9,10,11-octahydro-	034176-71-1
50	20.21	1.24	4-Hydroxy-2-methoxycinnamaldehyde	127321-19-1

Experiment 11 Residue

PK#	RT	Corrected Area%	Library/ID	CAS#
1	2.40	6.99	Benzeneethanamine, N-methyl-	000589-08-2
2	2.67	0.00	Acetone	000067-64-1
3	2.76	3.20	Cyclopropane, 1,2-dimethyl-, trans	002402-06-4
4	2.92	0.00	Methylene Chloride	000075-09-2
5	3.32	1.76	Chloroform	000067-66-3
6	6.59	0.77	Oxirane, [(1-methylethoxy)methyl]-	004016-14-2
7	10.26	1.07	Cyclohexanone, 2-ethyl-	004423-94-3
8	10.41	0.90	Phenol, 2-methyl-	000095-48-7
9	10.74	1.01	Phenol, 3-methyl-	000108-39-4
10	10.97	0.77	Benzene, 2-ethenyl-1,4-dimethyl-	002039-89-6
11	11.93	2.97	Phenol, 2,4-dimethyl-	000105-67-9
12	12.09	0.71	Benzene, 2-butenyl-	001560-06-1
13	12.20	0.94	Phenol, 4-ethyl-	000123-07-9
14	12.55	1.07	Phenol, 3-ethyl-5-methyl-	000698-71-5
15	12.62	2.16	Phenol, 3,4-dimethyl-	000095-65-8
16	12.69	1.78	Dodecane	000112-40-3
17	12.84	1.91	Phenol, 2,4,6-trimethyl-	000527-60-6
18	13.01	1.21	3-Methyldec-3-ene	036969-75-2

19	13.12	1.49	Phenol, 3-ethyl-5-methyl-	000698-71-5
20	13.28	2.97	Phenol, 4-(1-methylethyl)-	000099-89-8
21	13.35	1.82	Cycloheptanol, 2-methylene	016240-38-3
22	13.56	3.79	1,3-Cyclopentadiene, 5,5-dimethyl-1-propyl-	1000163-57-1
23	13.72	1.86	Phenol, 2,3,5-trimethyl-	000697-82-5
24	13.86	1.30	Phenol, 3-ethyl-5-methyl-	000698-71-5
25	14.12	2.09	Thymol	000089-83-8
26	14.23	1.95	Phenol, 2,4,6-trimethyl-	000527-60-6
27	14.32	1.21	2,5-Diethylphenol	000876-20-0
28	14.54	3.60	2-Methyl-4-propylphenol	018441-56-0
29	14.79	2.76	Phenol, 3,5-diethyl-	001197-34-8
30	15.03	2.81	Phenol, 2-(1,1-dimethylethyl)-4-methyl-	002409-55-4
31	15.11	1.61	2-Azidomethyl-1,3,3-trimethyl-cyclohexene	1000185-84-7
32	15.23	1.13	anti-10-Methyl-endo-tricyclo[5.2.1.0(2.6)]decane	1000215-29-5
33	15.30	2.87	Phenol, 4-(1,1-dimethylpropyl)-	000080-46-6
34	15.48	0.92	Benzene, 1-methoxy-4-(1-methylpropyl)-	004917-90-2
35	15.83	1.51	Phosphine, (pentamethylphenyl)-	1000162-21-6
36	15.94	2.74	Naphthalene, 2,7-dimethyl-	000582-16-1
37	16.34	0.90	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
38	16.46	1.91	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
39	16.71	2.72	1H-Cyclodecapyrzole, 4,5,6,7,8,9,10,11-octahydro-	034176-71-1
40	16.85	2.74	Pyrazine, trimethyl-1-propenyl-, (Z)-	055138-75-5
41	16.98	3.43	1H-2-Silaindene,2,3-dihydro-2,2-dimethyl-	002764-87-6
42	17.09	2.72	Cyclopentanecarboxylic acid, 3-neopentylidene-, methyl ester	1000158-90-0
43	17.37	1.78	1,3,5-Cycloheptatriene, 2,5-diethyl-7,7-dimethyl-	1000156-99-5
44	17.79	1.91	5-Isopropylidene-4,6-dimethylnona-3,6,8-trien-2-ol	1000195-14-9
45	17.98	1.99	1,2,3,4-Tetrahydrophosphinoline 1-oxide	1000222-50-4
46	18.21	1.68	Fluorene, 1,4-dihydro-	041593-21-9
47	18.28	3.71	1-Naphthalenol, 2-methyl-	007469-77-4
48	18.54	2.47	1-Naphthalenol, 4-methyl-	010240-08-1
49	18.80	2.47	1-(2-Methoxymethyl-3,5,6-trimethylphenyl)ethanone	1000202-04-4
50	19.69	1.88	1-Naphthol, 6,7-dimethyl-	031776-14-4

Experiment 12 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.40	3.88	(S)-(+)-1-Cyclohexylethylamine	017430-98-7
2	2.67	0.00	Acetone	000067-64-1
3	2.76	1.52	2-Butene, 2-methyl-	000513-35-9
4	2.92	0.00	Methylene Chloride	000075-09-2
5	11.94	1.97	Phenol, 3,5-dimethyl-	000108-68-9
6	12.10	1.11	Benzene, 2-ethenyl-1,4-dimethyl-	002039-89-6
7	12.62	1.31	Phenol, 3,4-dimethyl-	000095-65-8

8	13.13	1.31	Phenol, 3-ethyl-5-methyl-	000698-71-5
9	13.29	1.85	Benzene, 1-ethyl-4-methoxy-	001515-95-3
10	13.34	1.19	Phenol, 2,4,6-trimethyl-	000527-60-6
11	13.57	1.27	Phenol, 2-ethyl-6-methyl-	001687-64-5
12	13.83	1.55	Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	001680-51-9
13	14.23	3.11	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
14	14.55	2.53	Phenol, 4-(1-methylpropyl)-	000099-71-8
15	14.79	1.97	Ethanone, 1-(2-hydroxy-5-methylphenyl)-	001450-72-2
16	15.04	2.91	2,4,6-Trimethyl-1,3-phenylenediamine	003102-70-3
17	15.11	1.30	Naphthalene, 6-ethyl-1,2,3,4-tetrahydro-	022531-20-0
18	15.32	2.36	Naphthalene, 5-ethyl-1,2,3,4-tetrahydro-	042775-75-7
19	15.39	1.28	2-Ethyl-5-n-propylphenol	072386-20-0
20	15.57	1.99	Naphthalene, 1,2,3,4-tetrahydro-5,7-dimethyl-	021693-54-9
21	15.87	1.64	Ortho-hydroxybutyrophenone	1000132-07-3
22	15.95	2.33	Benzenemethanol, 4-(1-methylethyl)	000536-60-7
23	16.01	2.14	6-Methyl-4-indanol	020294-32-0
24	16.17	2.85	Fluorene, 1,2,3,4,4a,9a-hexahydro-, cis-	001559-97-3
25	16.46	2.02	Benzene, hexamethyl-	000087-85-4
26	16.71	1.38	Benzene, 1,3,5-triethyl-	000102-25-0
27	16.84	1.85	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
28	16.96	2.39	Naphthalene, 6-butyl-1,2,3,4-tetrahydro-	030654-45-6
29	17.10	2.55	Benzaldehyde, 4-butoxy-	005736-88-9
30	17.28	1.22	Benzofuran, 2,3-dihydro-2,2,4,6-tetramethyl-	003698-49-5
31	17.37	1.99	Benzene, 1-methoxy-4-(1-methyl-2-propenyl)-	018272-83-8
32	17.63	2.52	1,3,5-Cycloheptatriene, 2,4-diethyl-7,7-dimethyl-	1000156-99-6
33	17.80	4.41	5,8-Dimethyl-1,2,3,4-tetrahydroquinoxaline Perhydroanthracene, (4a.alpha., 8a.alpha., 9a.alpha., 10a.beta.)-	066102-39-4
34	17.89	2.13		002109-05-9
35	18.01	2.16	2-Benzoxazoline, N,N-diethyl-	020852-38-4
36	18.13	1.50	1-(2-Methoxymethyl-3,5,6-trimethylphenyl)ethanol	1000202-04-5
37	18.28	1.72	Benzaldehyde, 4-(pentyloxy)-	005736-91-4
38	18.36	2.36	1,3,5-Cycloheptatriene, 2,4-diethyl-7,7-dimethyl-	1000156-99-6
39	18.61	1.85	3-Buten-2-one, 4-(2-methoxyphenyl)	010542-87-7
40	18.80	1.49	2-Benzoxazoline, N,N-diethyl-	020852-38-4
41	18.90	2.08	1-(2-Methoxymethyl-3,5,6-trimethylphenyl)ethanone	1000202-04-4
42	19.14	3.96	Adamantane, 1-chloro-	000935-56-8
43	19.24	2.99	2-Benzoxazoline, N,N-diethyl-	020852-38-4
44	19.28	1.58	(1-Methoxy-1-methylbut-2-enyl)benzene	1000211-11-5
45	19.47	1.17	Cyclopropene, 1,3-dimethyl-2,3-bis(trifluoromethyl)-	054932-73-9
46	19.52	3.96	Phenanthrene, 1,2,3,4,5,6,7,8-octahydro-	005325-97-3
47	19.78	2.13	1,2,3,4,5,6,7,8-Octahydro-1-methylphenanthrene	1000080-19-4
48	20.06	1.82	Cyclohexanecarbonitrile, 1-(1-piperidinyl)-	003867-15-0
49	20.77	1.64	2-Butanol, 4-(2,2-dimethyl-6-methylenecyclohexylidene)-	068238-73-3

50	20.90	1.75	Naphtho[1,2-b]furan-4,5-dione, 2,3-dihydro-3,6-dimethyl-	023473-44-1
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Experiment 13 Condensate BC

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.27		Ethanol	000064-17-5
2	2.59	0.42	2-Propanone, 1-hydroxy-	000116-09-6
3	2.62	1.14	Cyclopentane	000287-92-3
4	2.79	1.19	Hexane	000110-54-3
5	3.21		Chloroform	000067-66-3
6	3.37	8.49	Cyclohexane	000110-82-7
7	3.46	2.28	Furan, tetrahydro-2-methyl-	000096-47-9
8	3.60	1.58	Cyclopentane, 1,3-dimethyl-	002453-00-1
9	3.65	3.44	1-Fluorononane	000463-18-3
10	3.78	2.48	6-Hepten-3-one, 5-hydroxy-4-methyl-	061141-71-7
11	3.83	2.47	Furan, tetrahydro-2,5-dimethyl-, cis-	002144-41-4
12	3.94	1.06	Furan, 2,5-dimethyl-	000625-86-5
13	4.00	0.97	2H-Pyran-2-ol, tetrahydro-	000694-54-2
14	4.05	0.67	Hexane, 1-(hexyloxy)-2-methyl-	074421-17-3
15	4.21	8.16	Cyclohexane, methyl-	000108-87-2
16	4.41	2.12	Cyclopentane, ethyl-	001640-89-7
17	5.18	0.40	Toluene	000108-88-3
18	5.27	1.43	Cyclopentanol, 1-methyl-	001462-03-9
19	5.46	1.51	Cyclohexane, 1,3-dimethyl-, cis-	000638-04-0
20	5.68	1.67	3-Hexanone	000589-38-8
21	5.75	0.76	Cyclopentane, 1-ethyl-3-methyl-, trans-	002613-65-2
22	5.83	2.35	2-Hexanone	000591-78-6
23	6.06	1.15	Cyclohexane, 1,4-dimethyl-, cis-	000624-29-3
24	6.33	1.46	Cyclohexane, 1,4-dimethyl-, cis-	000624-29-3
25	7.26	0.94	Cyclohexane, 1,2-dimethyl-, cis-	002207-01-4
26	7.45	6.62	Cyclohexane, ethyl-	001678-91-7
27	9.01	0.70	Cyclohexene, 1-ethyl-	001453-24-3
28	9.69	0.82	Cyclohexane, (1-methylethyl)-	000696-29-7
29	9.76	1.11	cis-1-Ethyl-3-methyl-cyclohexane	019489-10-2
30	10.01	0.61	Benzene, 1,3-dimethyl-	000108-38-3
31	10.11	0.39	Cyclopentanone, 2-methyl-	001120-72-5
32	10.58	1.37	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
33	11.13	0.65	Cyclohexane, (1-methylethyl)-	000696-29-7
34	11.56	3.34	Cyclohexane, propyl-	001678-92-8
35	11.74	0.64	Cyclopentane, butyl-	002040-95-1
36	12.58	0.34	Benzene, propyl-	000103-65-1
37	12.91	0.47	Benzene, 1-ethyl-2-methyl-	000611-14-3
38	13.72	0.48	1-(1-Methyl-cyclohexyl)-ethanone	1000193-88-2

39	13.91	2.51	1H-Indene, octahydro-, cis-	004551-51-3
40	14.39	0.59	Cyclohexane, 1,4-dimethyl-, cis-	000624-29-3
41	15.57	0.56	Cyclohexane, butyl-	001678-93-9
42	15.72	0.64	Tetracyclo[3.3.1.0(2,8).0(4,6)]-non-2-ene	1000191-13-7
43	15.80	0.72	1H-Indene, octahydro-5-methyl-	019744-64-0
44	16.47	0.51	Ketone, 1,5-dimethylbicyclo[2.1.0]pent-5-yl methyl	024081-57-0
45	16.78	0.49	1H-Indene, octahydro-5-methyl-	019744-64-0
46	17.53	0.34	Indan, 1-methyl-	000767-58-8
47	17.92	2.05	Naphthalene, decahydro-, cis-	000493-01-6
48	19.11	0.40	Cyclopentane, 1-methyl-2-(2-propenyl)-, trans-	050746-53-7
49	19.26	0.68	3a,6-Methano-3ah-indene, 2,3,6,7-tetrahydro-	098640-29-0
50	19.56	1.06	Phenol, 2,4-dimethyl-	000105-67-9
51	20.22	0.37	Phenol, 3-ethyl-	000620-17-7
52	20.85	0.68	Cyclopentylcyclohexane	001606-08-2
53	20.95	0.97	Phenol, 2,4-dimethyl-	000105-67-9
54	21.14	10.77	Dodecane	000112-40-3
55	21.28	0.72	Phenol, 2,3,5-trimethyl-	000697-82-5
56	22.28	1.05	Phenol, 2-ethyl-5-methyl-	001687-61-2
57	23.11	0.84	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
58	23.36	0.39	Cyclohexane, (cyclopentylmethyl)-	004431-89-4
59	23.44	0.41	Phenol, 3,5-diethyl-	001197-34-8
60	23.87	1.40	Thymol	000089-83-8
61	24.17	1.14	1,1'-Bicyclohexyl	000092-51-3
62	24.39	0.55	Naphthalene, 2-methyl-	000091-57-6
63	24.77	0.36	2-Methyl-6-propylphenol	003520-52-3
64	24.84	0.64	cis-anti-cis-Tricyclo[7.3.0.0(2,6)]dodecane	030159-15-0
65	25.58	0.46	Cyclohexene,1-heptyl-	015232-86-7
66	25.71	0.73	Phenol, 2,3,5,6-tetramethyl-	000527-35-5
67	26.09	0.41	Decalin, syn-1-methyl-, cis-	1000158-89-1
68	27.88	0.77	1H-Fluorene, dodecahydro-	005744-03-6
69	29.13	0.77	Cyclohexane, (3-cyclopentylpropyl)-	002883-07-0
70	30.91	0.34	2-Cyclohexen-1-one, 4-methyl-4-phenyl-	017429-36-6

Experiment 13 Condensate D

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.27		Ethanol	000064-17-5
2	2.63	0.77	Cyclobutane, methyl-	000598-61-8
3	2.79	2.95	Hexane	000110-54-3
4	3.21		Chloroform	000067-66-3
5	3.39	4.89	Cyclohexane	000110-82-7
6	3.49		Chloroform	000067-66-3
7	3.66	1.02	1-Fluorooctane	000463-11-6

8	3.80	1.44	Heptane	000142-82-5
9	4.22	5.11	Cyclohexane, methyl-	000108-87-2
10	4.42	0.94	Cyclopentane, ethyl-	001640-89-7
11	5.19	1.08	Toluene	000108-88-3
12	5.46	1.87	Cyclohexane, 1,4-dimethyl-	000589-90-2
13	5.84	1.01	Cyclopentane, 1-ethyl-3-methyl-, cis-	002613-66-3
14	6.08	1.70	Cyclohexane, 1,2-dimethyl-, trans-	006876-23-9
15	6.33	1.33	Cyclohexane, 1,3-dimethyl-, trans-	002207-03-6
16	7.27	0.93	Cyclohexane, 1,2-dimethyl-, cis-	002207-01-4
17	7.46	4.97	Cyclohexane, ethyl-	001678-91-7
18	8.68	0.77	Ethylbenzene	000100-41-4
19	9.02	0.98	p-Xylene	000106-42-3
20	9.77	1.44	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
21	10.03	1.57	Benzene, 1,3-dimethyl-	000108-38-3
22	10.59	1.80	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
23	11.57	3.85	Cyclohexane, (1-methylethyl)-	000696-29-7
24	12.58	0.87	Benzene, propyl-	000103-65-1
25	12.91	0.96	Benzene, 1-ethyl-2-methyl-	000611-14-3
26	13.63	0.80	Benzene, 1-ethyl-2-methyl-	000611-14-3
27	13.72	1.00	Cyclohexane, 1-methyl-3-propyl-	004291-80-9
28	13.83	0.79	Cyclohexane, 1,3-dimethyl-, trans-	002207-03-6
29	13.91	1.10	1H-Indene, octahydro-, cis-	004551-51-3
30	14.16	0.77	Benzene, 1,2,3-trimethyl-	000526-73-8
31	14.40	1.39	Cyclohexane, 1,4-dimethyl-	000589-90-2
32	15.24	1.05	Benzene, 1-ethyl-2-methyl-	000611-14-3
33	15.57	0.95	Cyclohexane, butyl-	001678-93-9
34	15.72	1.55	Tetracyclo[3.3.1.0(2,8).0(4,6)]-non-2-ene	1000191-13-7
35	16.32	1.27	Benzene, 1-methyl-3-propyl-	001074-43-7
36	16.48	0.77	Phenol, 2-methyl-	000095-48-7
37	17.54	0.94	Indan, 1-methyl-	000767-58-8
38	17.96	0.97	Ketone, 2,2-dimethylcyclohexyl methyl	017983-26-5
39	18.21	0.84	Benzene, 2-ethyl-1,4-dimethyl-	001758-88-9
40	19.11	0.78	Cyclohexane, pentyl-	004292-92-6
41	19.26	1.76	Benzene, 1-methyl-2-(2-propenyl)-	001587-04-8
42	19.56	1.46	Phenol, 2,4-dimethyl-	000105-67-9
43	19.62	1.97	1-Phenyl-1-butene	000824-90-8
44	20.00	1.23	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
45	20.67	0.90	Benzene, (3-methyl-2-butenyl)-	004489-84-3
46	20.85	1.95	1H-Indene, 2,3-dihydro-1,3-dimethyl-	004175-53-5
47	20.96	1.58	3-Phenyl-2-pentene	1000118-14-7
48	21.13	2.29	Dodecane	000112-40-3
49	21.28	1.13	Phenol, 2,3,5-trimethyl-	000697-82-5
50	21.93	1.70	Benzene, (2-chloro-2-butenyl)-	054411-12-0

51	22.28	2.42	Phenol, 2-ethyl-5-methyl-	001687-61-2
52	22.91	1.62	Phenol, 2,3,6-trimethyl-	002416-94-6
53	23.11	2.59	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
54	23.25	0.73	Phenol, 2,3,6-trimethyl-	002416-94-6
55	23.43	0.71	Phenol, 3,5-diethyl-	001197-34-8
56	23.88	4.35	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
57	24.17	0.99	1,1'-Bicyclohexyl	000092-51-3
58	24.39	1.13	Naphthalene, 2-methyl-	000091-57-6
59	24.60	1.45	Naphthalene, 1,2,3,4-tetrahydro-2,7-dimethyl-	013065-07-1
60	24.77	1.53	2-Methyl-6-propylphenol	003520-52-3
61	25.29	1.01	Benzene, 4-(2-butenyl)-1,2-dimethyl-, (E)-	054340-86-2
62	25.59	1.16	Benzene, 1-(1-methylethenyl)-2-(1-methylethyl)-	005557-93-7
63	26.09	0.88	Naphthalene, 5-ethyl-1,2,3,4-tetrahydro-	042775-75-7
64	26.57	1.31	Naphthalene, 1,2,3,4-tetrahydro-5,7-dimethyl-	021693-54-9
65	27.25	0.81	Naphthalene, 1,7-dimethyl-	000575-37-1
66	27.37	1.15	Benzene, 2,5-cyclohexadien-1-yl-	004794-05-2
67	27.76	0.83	Naphthalene, 1,4-dimethyl-	000571-58-4
68	28.26	0.71	Naphthalene, 1,2,3,4-tetrahydro-6-propyl-	042775-77-9
69	29.14	1.30	Cyclohexane, 1-(cyclohexylmethyl)-4-methyl-, cis-	054823-97-1
70	30.91	0.73	2,5-Dimethyl-3-phenylfuran	019842-57-0

Experiment 13 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.38	1.17	1,2,5-Oxadiazole	000288-37-9
2	2.67	0.00	Acetone	000067-64-1
3	2.76	19.88	Methylene Chloride	000075-09-2
4	2.92	0.00	Methylene Chloride	000075-09-2
5	7.83	1.14	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
6	8.26	2.27	Cyclohexane, propyl-	001678-92-8
7	9.24	2.09	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
8	9.55	1.21	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
9	10.10	1.51	Cyclohexane, butyl-	001678-93-9
10	10.53	1.06	Cyclohexane, 1-methyl-3-(1-methylethenyl)-, cis-	024399-15-3
11	10.56	1.09	Naphthalene, decahydro-, trans-	000493-02-7
12	11.23	1.86	Cyclohexane, 1-ethyl-2-propyl-	062238-33-9
13	11.31	1.20	Naphthalene, decahydro-, cis-	000493-01-6
14	11.48	1.12	trans-Decalin, 2-methyl-	1000152-47-3
15	11.75	1.36	cis-Decalin, 2-syn-methyl-	1000155-85-6
16	12.10	2.10	Indan, 1-methyl-	000767-58-8
17	12.28	1.12	Spiro[4.5]decan-2-one	003643-16-1
18	12.56	1.69	Cyclopentane, 1,1'-ethylidenebis-	004413-21-2
19	12.64	1.05	Triallylsilane	001116-62-7

20	12.70	2.24	Dodecane	000112-40-3
21	13.25	1.31	trans, cis-3-Ethylbicyclo[4.4.0]decane	066660-43-3
22	13.35	3.17	Cyclohexane, (4-methylpentyl)-	061142-20-9
23	13.79	1.02	Benzene, (1-methyl-1-butenyl)-	053172-84-2
24	13.83	1.46	Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	001680-51-9
25	14.05	1.53	Cyclohexane, 1-ethyl-4-methyl-, cis-	004926-78-7
26	14.22	3.53	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
27	14.38	2.87	1,1'-Bicyclohexyl	000092-51-3
28	14.56	2.94	Naphthalene, 1,2,3,4-tetrahydro-2,7-dimethyl-	013065-07-1
29	14.67	1.62	1H-Indene, 2,3-dihydro-1,1,5-trimethyl-	040650-41-7
30	14.79	1.36	Heptylcyclohexane	005617-41-4
31	15.08	2.95	1,1'-Bicyclohexyl, 2-methyl-, trans-	050991-09-8
32	15.22	1.09	Benzocyclodecene, tetradecahydro-	061142-06-1
33	15.33	1.92	Cyclohexane, 1,1'-methylenebis-	003178-23-2
34	15.56	3.16	Naphthalene, 1,2,3,4-tetrahydro-6,7-dimethyl-	001076-61-5
35	15.96	1.45	Cyclohexane, 1-(cyclohexylmethyl)-4-methyl-, cis-	054823-97-1
36	16.16	2.59	Cyclohexane, 1-(cyclohexylmethyl)-4-methyl-, cis-	054823-97-1
37	16.28	1.54	Naphthalene, 1,2,3,4-tetrahydro-1,5,8-trimethyl-	021693-51-6
38	16.54	1.17	Cyclohexane, 1-(cyclohexylmethyl)-4-ethyl-, trans-	054934-94-0
39	16.86	2.06	Cyclohexane, (3-cyclopentylpropyl)	002883-07-0
40	17.25	1.75	1H-Indene, 1-ethenyl-2,3-dihydro-	051783-46-1
41	17.39	1.45	Dodeca-1,6-dien-12-ol, 6,10-dimethyl-	1000156-13-8
42	17.46	1.58	Carbonic acid, dithio-, S-methyl O-(2-methylcyclohexyl) ester, cis-	015288-12-7
43	17.62	1.73	1,15-Hexadecadiene	021964-51-2
44	18.42	1.79	Anthracene, 1,2,3,4,5,6,7,8-octahydro-	001079-71-6
45	18.67	1.06	Cyclohexane, 1-(cyclohexylmethyl)-3-methyl-, cis-	054823-96-0
46	18.81	1.28	Cyclopentane, 1,1'-ethylidenebis-	004413-21-2
47	19.53	1.63	Anthracene, 1,2,3,4,5,6,7,8-octahydro-	001079-71-6
48	19.87	1.05	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	061142-24-3
49	20.06	1.20	2H-Benz[e]inden-3-ol, 3,3a,4,5-tetrahydro-3a-methyl-, (3S-cis)-	071805-91-9
50	20.15	1.57	1,2,3,4,5,6,7,8-Octahydro-1-methylphenanthrene	1000080-19-4

Experiment 14 Residue--high-organic aqueous

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.40	1.50	1-Adamantanemethylamine, .alpha.-methyl-	013392-28-4
2	2.68	0.00	Acetone	000067-64-1
3	2.92	0.00	Methylene Chloride	000075-09-2
4	8.26	2.01	Cyclohexane, (1-methylethyl)-	000696-29-7
5	9.23	1.28	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
6	9.48	1.67	Decane	000124-18-5

7	11.23	1.85	Cyclohexane, 1-ethyl-2-propyl-	062238-33-9
8	11.75	1.64	cis-Decalin, 2-syn-methyl-	1000155-85-6
9	12.27	1.37	Cyclodecene, 1-methyl-	066633-38-3
10	12.56	2.48	Isojasmone	011050-62-7
11	12.64	1.53	5-Undecene, 7-methyl-, (E)-	074630-66-3
12	12.70	1.56	Dodecane	000112-40-3
13	13.25	1.35	Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	001559-81-5
14	13.35	3.81	Cyclohexane, (4-methylpentyl)-	061142-20-9
15	14.05	1.89	Cyclopentane, 1,1'-ethylidenebis-	004413-21-2
16	14.10	2.00	Bicyclo[4.1.0]heptane, 3-methyl-7-pentyl-	041977-48-4
17	14.21	4.05	Cyclohexane, 1-ethyl-1-methyl-	004926-90-3
18	14.26	1.29	3a,7a-Epoxy-1H-inden-4(5H)-one, tetrahydro-	039746-31-1
19	14.38	3.32	1,1'-Bicyclohexyl	000092-51-3
20	14.56	2.22	3a,7a-Epoxy-1H-inden-4(5H)-one, tetrahydro-	039746-31-1
21	14.79	1.95	Cyclopentane, 1-methyl-3-(1-methylethyl)-	053771-88-3
22	14.90	2.37	Cyclohexane, 1,1,3-trimethyl-	003073-66-3
23	15.07	2.48	Cyclohexane, 1-(cyclohexylmethyl)-4-methyl-, cis-	054823-97-1
24	15.23	2.03	Cyclohexane, 1,1'-ethylidenebis-	002319-61-1
25	15.33	2.03	Naphthalene, 5-ethyl-1,2,3,4-tetrahydro-	042775-75-7
26	15.44	1.58	1,5,9-Undecatriene, 2,6,10-trimethyl-, (Z)-	062951-96-6
27	15.55	5.31	Naphthalene, 1,2,3,4-tetrahydro-5,7-dimethyl-	021693-54-9
28	15.97	2.34	1H-Indene, 2,3-dihydro-1,1,3-trimethyl-	002613-76-5
29	16.09	1.50	7-Pentadecyne	022089-89-0
30	16.13	2.75	Bicyclo[3.1.1]heptan-2-one, 6,6-dimethyl-, (1R)-	038651-65-9
31	16.27	1.95	Naphthalene, 1,2,3,4-tetrahydro-1,5,8-trimethyl-	021693-51-6
32	16.42	1.34	1-Cyclohexyl-1-(4-methylcyclohexyl)ethane	1000215-44-5
33	16.50	2.28	Triallylsilane	001116-62-7
34	16.69	1.25	7-Pentadecyne	022089-89-0
35	16.78	1.44	Phenanthrene, tetradecahydro-	005743-97-5
36	16.85	2.84	Cyclohexane, 1,1'-(1-methyl-1,2-ethanediyl)bis-	041851-34-7
37	16.96	1.67	7-Hexadecyne	074685-28-2
38	17.24	1.97	Cyclohexane, 1-(cyclohexylmethyl)-4-ethyl-, cis-	054934-95-1
39	17.40	2.82	Z-9-Tetradecenal	1000130-77-1
40	17.46	2.93	1-(2-Methyl-propenyl)-aziridine	1000192-50-2
41	17.62	1.94	Cyclohexane, 1,2-dimethyl-3-pentyl-4-propyl-	062376-17-4
42	17.94	2.00	(-)-E-Pinane	033626-25-4
43	18.03	1.28	1,1'-Bicyclohexyl, 4-methyl-4'-propyl-	092343-70-9
44	18.13	1.31	Cyclohexane, 1-(cyclohexylmethyl)-4-(1-methylethyl)-	054965-61-6
45	18.39	3.26	Cyclohexane, 1,2-dimethyl-3-pentyl-4-propyl-	062376-17-4
46	18.50	1.40	Cyclohexene,1-(2-methylpropyl)-	003983-03-7
47	18.60	1.76	Cyclohexane, 1,1'-hexylidenebis-	055030-20-1
48	18.67	1.77	(1S,15S)-Bicyclo[13.1.0]hexadecan-2-one	1000105-87-9
49	19.73	1.95	Cyclopentane, 1,1'-[3-(2-cyclopentylethyl)-1,5-	055255-85-1

			pentanediyl]bis-	
50	20.91	1.74	2-Dodecen-1-yl(-)succinic anhydrid	019780-11-1

Experiment 15 Residue--high-organic aqueous

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.40	4.93	n-Hexylmethylamine	035161-70-7
2	2.67	0.00	Acetone	000067-64-1
3	2.91	0.00	Methylene Chloride	000075-09-2
4	8.26	1.17	Cyclohexane, propyl-	001678-92-8
5	11.23	1.29	Cyclohexane, 1-ethyl-2-propyl-	062238-33-9
6	12.29	1.23	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
7	12.56	1.29	Cyclohexane, 1-methyl-2-pentyl-	054411-01-7
8	12.70	1.39	1H-Indene,2,3-dihydro-2,2-dimethyl	020836-11-7
9	13.25	1.18	Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	001559-81-5
10	13.35	2.73	Cyclohexane, (4-methylpentyl)-	061142-20-9
11	13.83	1.35	Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	001680-51-9
12	14.05	1.41	Cyclopentane, 1,1'-ethylidenebis-	004413-21-2
13	14.23	3.18	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
14	14.38	2.50	1,1'-Bicyclohexyl	000092-51-3
15	14.56	2.54	Naphthalene, 1,2,3,4-tetrahydro-1,4-dimethyl-	004175-54-6
16	14.67	1.16	Naphthalene, 1,2,3,4-tetrahydro-1,8-dimethyl-	025419-33-4
17	14.79	1.21	Cyclopentane, 1-methyl-3-(1-methylethyl)-	053771-88-3
18	14.93	1.94	Naphthalene, 1,2,3,4-tetrahydro-1,4-dimethyl-	004175-54-6
19	15.08	2.67	Naphthalene, 1,2,3,4-tetrahydro-1,5-dimethyl-	021564-91-0
20	15.33	1.49	Naphthalene, 5-ethyl-1,2,3,4-tetrahydro-	042775-75-7
21	15.55	4.06	Naphthalene, 1,2,3,4-tetrahydro-6,7-dimethyl-	001076-61-5
22	15.68	1.24	1,1'-Bicyclohexyl, 2-ethyl-, cis-	050991-12-3
23	15.97	1.32	1H-Indene, 2,3-dihydro-1,1,3-trimethyl-	002613-76-5
24	16.04	1.33	1H-Indene, 2,3-dihydro-1,1,3-trimethyl-	002613-76-5
25	16.17	1.98	Naphthalene, 1,2,3,4-tetrahydro-1,6,8-trimethyl-	030316-36-0
26	16.29	2.49	Naphthalene, 1,2,3,4-tetrahydro-6-propyl-	042775-77-9
27	16.42	1.40	3-Ethyl-3-phenyl-1-pentene	019781-34-1
28	16.50	1.73	Triallylsilane	001116-62-7
29	16.69	2.75	Naphthalene, 1,2,3,4-tetrahydro-1,4-dimethyl-	004175-54-6
30	16.85	2.07	Cyclohexane, 1,1'-(1-methyl-1,2-ethanediyl)bis-	041851-34-7
31	16.96	1.49	Naphthalene, 6-butyl-1,2,3,4-tetrahydro-	030654-45-6
32	17.25	2.31	Benzene, 1-cyclopenten-1-yl-	000825-54-7
33	17.40	2.93	1,19-Eicosadiene	014811-95-1
34	17.48	2.81	1H-Indene, 3-butyl-1-methyl-	111400-84-1
35	17.63	2.16	1H-Indene, 3-ethyl-1-(1-methylethyl)-	111400-85-2
36	17.80	2.17	3-Phenyl-1-cyclopentene	1000139-61-0
37	17.88	1.20	5(6H)-Benzocyclooctenone, 7,8-dihydro-8,8-dimethyl-	069576-84-7

38	17.94	1.36	3-(But-3-enyl)-cyclohexanone	1000145-07-5
39	18.13	1.43	Cyclohexane, 1-(cyclohexylmethyl)-4-(1-methylethyl)-	054965-61-6
40	18.18	1.33	1H-Indene, 3-butyl-1-methyl-	111400-84-1
41	18.41	3.48	1H-Indene, 3-ethyl-1-(1-methylethyl)-	111400-85-2
42	18.60	1.41	1,15-Hexadecadiene	021964-51-2
43	18.67	1.27	Cyclohexane, 1-(cyclohexylmethyl)-3-methyl-, cis-	054823-96-0
44	19.25	2.20	(3,7-Dimethyl-octa-2,6-dienyl)-benzene	021488-83-5
45	19.53	3.12	Anthracene, 1,2,3,4,5,6,7,8-octahydro-	001079-71-6
46	19.73	1.80	Phosphine oxide, dicyclohexyl-	014717-29-4
47	19.78	2.56	Anthracene, 9-ethyl-1,2,3,4,5,6,7,8-octahydro-	1000159-51-2
48	20.15	2.84	1,2,3,4,5,6,7,8-Octahydro-1-methylphenanthrene	1000080-19-4
49	20.35	3.13	Ethanone, 1,2-di-2-furanyl-2-hydroxy-	000552-86-3
50	20.91	3.98	Anthracene, 9-ethyl-1,2,3,4,5,6,7,8-octahydro-	1000159-51-2

Experiment 16 Condensate BC

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.21		Butane	000106-97-8
2	2.27		Ethanol	000064-17-5
3	2.58	1.09	Acetic acid, methyl ester	000079-20-9
4	2.63	1.26	Cyclopentane	000287-92-3
5	2.79	4.27	Hexane	000110-54-3
6	3.21		Chloroform	000067-66-3
7	3.37	8.63	Cyclohexane	000110-82-7
8	3.46	3.77	Furan, tetrahydro-2-methyl-	000096-47-9
9	3.60	0.73	Cyclopentane, 1,3-dimethyl-	002453-00-1
10	3.65	2.60	Hexane, 1-(hexyloxy)-3-methyl-	074421-18-4
11	3.78	3.04	Butanoic acid, 4-methoxy-, methyl ester	029006-01-7
12	3.83	2.04	2,5-Hexanediol	002935-44-6
13	3.94	1.16	2H-Pyran, tetrahydro-	000142-68-7
14	4.00	1.01	Furan, tetrahydro-2,4-dimethyl-, cis-	039168-01-9
15	4.05	1.12	Hexane, 2-methyl-	000591-76-4
16	4.21	6.23	Cyclohexane, methyl-	000108-87-2
17	4.41	1.82	Cyclopentane, ethyl-	001640-89-7
18	4.69	1.22	2H-Pyran, tetrahydro-2-methyl-	010141-72-7
19	5.17	0.92	Toluene	000108-88-3
20	5.27	1.54	Oxirane, hexyl-	002984-50-1
21	5.46	1.38	Cyclohexane, 1,4-dimethyl-	000589-90-2
22	5.68	1.40	3-Hexanone	000589-38-8
23	5.74	0.61	Cyclopentane, 1-ethyl-3-methyl-, cis-	002613-66-3
24	5.83	2.35	Cyclopentane, 1-ethyl-3-methyl-	003726-47-4
25	6.00	0.63	3-Hexanol	000623-37-0
26	6.06	1.17	Cyclohexane, 1,2-dimethyl-, trans-	006876-23-9

27	6.17	0.91	2-Heptanol, 3-methyl-	031367-46-1
28	6.33	1.08	Cyclohexane, 1,2-dimethyl-, trans-	006876-23-9
29	6.75	0.57	Acetic acid, butyl ester	000123-86-4
30	7.26	0.57	Cyclohexane, 1,2-dimethyl-, cis-	002207-01-4
31	7.45	4.69	Cyclohexane, ethyl-	001678-91-7
32	8.67	0.65	Ethylbenzene	000100-41-4
33	9.01	0.54	Benzene, 1,3-dimethyl-	000108-38-3
34	9.68	1.62	Cyclohexane, (1-methylethyl)-	000696-29-7
35	9.75	0.96	1-Ethyl-4-methylcyclohexane	003728-56-1
36	10.01	1.00	Benzene, 1,3-dimethyl-	000108-38-3
37	10.58	1.13	cis-1-Ethyl-3-methyl-cyclohexane	019489-10-2
38	11.57	2.68	Cyclohexane, propyl-	001678-92-8
39	11.74	0.49	Cyclopentane, butyl-	002040-95-1
40	12.16	0.64	Cyclohexanol, 3-methyl-	000591-23-1
41	12.58	0.91	Benzene, propyl-	000103-65-1
42	12.91	0.69	Benzene, 1-ethyl-2-methyl-	000611-14-3
43	13.31	0.59	1-Tetradecanol, 14-chloro-	073937-05-0
44	13.71	0.61	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
45	13.91	1.58	1H-Indene, octahydro-, cis-	004551-51-3
46	14.41	0.53	Cyclopentane, butyl-	002040-95-1
47	15.57	0.56	Cyclohexane, butyl-	001678-93-9
48	15.72	0.94	Indane	000496-11-7
49	16.37	0.91	Cyclodecene	003618-12-0
50	16.47	0.71	Phenol, 2-methyl-	000095-48-7
51	19.11	0.50	Cyclohexane, (1-ethylpropyl)-	026321-98-2
52	19.25	1.33	Azulene, 1,2,3,3a-tetrahydro-	033877-87-1
53	19.56	1.33	Phenol, 2,4-dimethyl-	000105-67-9
54	20.00	1.45	Naphthalene, 1,2,3,4-tetrahydro-	000119-64-2
55	20.85	0.59	Benzene, (3-methyl-2-butenyl)-	004489-84-3
56	20.95	0.91	Phenol, 2,3-dimethyl-	000526-75-0
57	21.14	6.31	Dodecane	000112-40-3
58	21.28	0.71	Phenol, 2,3,5-trimethyl-	000697-82-5
59	21.93	0.53	Naphthalene, 1,2,3,4-tetrahydro-1-methyl-	001559-81-5
60	22.29	1.90	Phenol, 4-ethyl-3-methyl-	001123-94-0
61	22.90	0.94	2,4-Dimethylanisole	006738-23-4
62	23.11	1.25	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	002809-64-5
63	23.44	0.47	4-Hydroxy-3-methylacetophenone	000876-02-8
64	23.87	1.80	Phenol, 2-methyl-5-(1-methylethyl)-	000499-75-2
65	24.39	0.81	Phenol, 2-ethyl-4,5-dimethyl-	002219-78-5
66	24.60	0.63	Naphthalene, 1,2,3,4-tetrahydro-2,7-dimethyl-	013065-07-1
67	24.77	0.97	2-Methyl-6-propylphenol	003520-52-3
68	25.71	0.92	Phenol, 2,3,5,6-tetramethyl-	000527-35-5
69	26.20	0.60	Acenaphthylene, 1,2,2a,3,4,5-hexahydro-	000480-72-8

70	26.65	0.47	Phenol, 2-methyl-5-(1-methylethyl)-	000499-75-2
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Experiment 16 Condensate D

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.27		Ethanol	000064-17-5
2	2.69	0.58	1-Pentene	000109-67-1
3	2.79	3.44	Hexane	000110-54-3
4	3.21		Chloroform	000067-66-3
5	3.39	4.85	Cyclohexane	000110-82-7
6	3.48	0.79	Chloroform	000067-66-3
7	3.79	1.15	Heptane	000142-82-5
8	4.22	6.06	Cyclohexane, methyl-	000108-87-2
9	4.42	0.72	Cyclopentane, ethyl-	001640-89-7
10	5.46	2.92	Cyclohexane, 1,3-dimethyl-, cis-	000638-04-0
11	6.08	2.78	Cyclohexane, 1,2-dimethyl-, trans-	006876-23-9
12	6.33	1.40	Cyclohexane, 1,3-dimethyl-, trans-	002207-03-6
13	7.27	0.73	Cyclohexane, 1,2-dimethyl-, cis-	002207-01-4
14	7.46	5.49	Cyclohexane, ethyl-	001678-91-7
15	9.02	0.72	p-Xylene	000106-42-3
16	9.77	2.50	1-Ethyl-3-methylcyclohexane (c,t)	003728-55-0
17	10.03	0.87	Benzene, 1,3-dimethyl-	000108-38-3
18	10.33	0.75	Nonane	000111-84-2
19	10.59	2.56	1-Ethyl-4-methylcyclohexane	003728-56-1
20	11.57	4.15	Cyclohexane, propyl-	001678-92-8
21	12.58	1.03	1H-Indene, octahydro-, trans-	003296-50-2
22	12.91	1.03	Benzene, 1-ethyl-2-methyl-	000611-14-3
23	13.31	0.61	Cyclopentane, 1-methyl-3-(2-methylpropyl)-	029053-04-1
24	13.72	1.78	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
25	13.83	1.04	Cyclohexane, 1-methyl-2-propyl-	004291-79-6
26	13.91	1.26	1H-Indene, octahydro-, cis-	004551-51-3
27	14.20	1.22	3-Hexene, 3-ethyl-2,5-dimethyl-	062338-08-3
28	14.41	1.91	Cyclohexane, 1,4-dimethyl-	000589-90-2
29	14.62	0.64	Naphthalene, decahydro-, cis-	000493-01-6
30	14.94	0.85	Cyclopentane, 1-methyl-1-(2-methyl-2-propenyl)-	074764-47-9
31	15.58	0.99	Cyclohexane, butyl-	001678-93-9
32	15.81	0.60	1H-Indene, octahydro-5-methyl-	019744-64-0
33	16.33	1.06	Benzene, 1-methyl-3-propyl-	001074-43-7
34	16.38	1.20	Naphthalene, decahydro-	000091-17-8
35	16.86	0.74	Benzene, 1-methyl-2-propyl-	001074-17-5
36	17.43	0.70	Cyclohexane, 1-methyl-3-propyl-	004291-80-9
37	17.63	1.08	Bicyclo[3.1.1]heptan-3-one, 2,6,6-trimethyl-, (1.alpha.,2.beta.,5.alpha.)-	015358-88-0

38	17.97	2.28	6-Octen-1-ol, 3,7-dimethyl-, (R)-	001117-61-9
39	18.21	0.66	Benzene, 1-methyl-4-(1-methylethyl)-	000099-87-6
40	18.32	1.24	trans-Decalin, 2-methyl-	1000152-47-3
41	18.86	1.32	Naphthalene, decahydro-2-methyl-	002958-76-1
42	19.11	1.36	Cyclohexane, pentyl-	004292-92-6
43	19.25	1.49	Benzene, 1-methyl-4-(2-propenyl)-	003333-13-9
44	19.62	1.47	1H-Indene, 2,3-dihydro-5-methyl-	000874-35-1
45	20.86	2.13	Benzene, (1-methyl-1-butenyl)-	053172-84-2
46	21.13	2.02	1,7-Dodecadiene	1000130-72-1
47	21.94	1.10	Benzene, (1-methyl-1-butenyl)-	053172-84-2
48	22.24	0.78	Cyclohexane, hexyl-	004292-75-5
49	22.29	1.79	Cyclohexane, hexyl-	004292-75-5
50	23.10	1.31	Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	001680-51-9
51	23.37	0.81	Cyclooctene, 1,2-dimethyl-	054299-96-6
52	23.72	1.29	Cyclohexane, 1-ethyl-1-methyl-	004926-90-3
53	23.89	1.56	2-Propenal, 3-methyl-3-phenyl-	1000132-14-7
54	24.01	1.80	Cyclopropane, 1-(diethylaminocarbonyl)-2,2-dimethyl-	1000154-89-6
55	24.18	2.14	1,1'-Bicyclohexyl	000092-51-3
56	24.60	1.52	Naphthalene, 1,2,3,4-tetrahydro-2,7-dimethyl-	013065-07-1
57	24.72	1.04	Naphthalene, 1,2,3,4-tetrahydro-1,4-dimethyl-	004175-54-6
58	25.19	0.58	Heptylcyclohexane	005617-41-4
59	25.59	1.36	1H-Fluorene, dodecahydro-	005744-03-6
60	26.57	1.35	Naphthalene, 1,2,3,4-tetrahydro-5,7-dimethyl-	021693-54-9
61	26.65	0.96	1,1'-Bicyclohexyl, 2-ethyl-, cis-	050991-12-3
62	27.24	0.60	Benzenemethanol, .alpha.-1-pentynyl-	108946-34-5
63	27.37	0.86	Benzene, 4-(2-butenyl)-1,2-dimethyl-, (E)-	054340-86-2
64	27.77	0.75	Cyclohexane, 1-(cyclohexylmethyl)-4-methyl-, cis-	054823-97-1
65	27.86	0.61	Cyclododecanemethanol	001892-12-2
66	29.14	0.83	Cyclohexane, 2-propenyl-	002114-42-3
67	30.38	0.76	Mesityl oxide semicarbazone	003780-62-9
68	30.91	0.65	Benzene, 1-cyclopenten-1-yl-	000825-54-7
69	32.74	0.71	1-[4-Chlorophenyl]-N-methyl-1H-tetrazol-5-amine	1000213-72-7
70	33.96	0.64	1H-Thieno[3,4-d]imidazole-4-propanoic acid, hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-	016968-98-2

Experiment 16 Residue

Pk#	RT	Corrected Area%	Library/ID	CAS#
1	2.39	1.28	3-Butyn-1-ol	000927-74-2
2	2.70	0.00	Acetone	000067-64-1
3	2.76	0.00	Methylene Chloride	000075-09-2
4	2.92	7.39	Methylene Chloride	000075-09-2
5	7.46	1.28	1-Ethyl-4-methylcyclohexane	003728-56-1

6	7.83	1.33	Cyclohexane, 1-ethyl-4-methyl-, trans-	006236-88-0
7	8.26	2.40	Cyclohexane, (1-methylethyl)-	000696-29-7
8	8.77	1.10	1H-Indene, octahydro-, trans-	003296-50-2
9	9.24	2.32	Cyclohexane, 1-methyl-3-propyl-	004291-80-9
10	9.39	1.32	1H-Indene, octahydro-, cis-	004551-51-3
11	9.48	2.16	Divinyldimethylsilane	010519-87-6
12	9.56	1.24	m-Menthane, (1S,3R)-(+)-	013837-66-6
13	10.11	2.10	Cyclohexane, butyl-	001678-93-9
14	10.27	1.10	Cyclohexene, 1-butyl-	003282-53-9
15	10.56	4.62	Naphthalene, decahydro-, trans-	000493-02-7
16	10.97	1.24	Cyclohexane, 1-ethyl-1-methyl-	004926-90-3
17	11.16	1.03	Undecane	001120-21-4
18	11.23	2.25	Cyclohexane, 1-ethyl-2-propyl-	062238-33-9
19	11.33	1.28	Cyclodecene, 1-methyl-	066633-38-3
20	11.48	4.06	trans-Decalin, 2-methyl-	1000152-47-3
21	11.75	4.31	trans-Decalin, 2-methyl-	1000152-47-3
22	12.27	1.36	Cyclodecene, 1-methyl-	066633-38-3
23	12.35	1.91	cis,trans-1,10-Dimethylspiro[4.5]decane	1000111-72-3
24	12.56	4.40	Naphthalene, decahydro-2,6-dimethyl-	001618-22-0
25	12.71	1.38	1-Cyclohexanone, 3,5,5-trimethyl-3-vinyl-	027749-07-1
26	13.25	1.58	cis, cis-3-Ethylbicyclo[4.4.0]decane	066660-42-2
27	13.35	3.66	Heptylcyclohexane	005617-41-4
28	13.57	1.28	(7E,9E)-Dodecadial	097475-10-0
29	14.05	2.25	Cyclopentane, 1,1'-ethylidenebis-	004413-21-2
30	14.10	1.68	Bicyclo[4.1.0]heptane, 3-methyl-7-pentyl-	041977-48-4
31	14.21	2.76	Cyclohexane, 1-ethyl-1-methyl-	004926-90-3
32	14.27	1.44	Cyclohexane, 1-(cyclohexylmethyl)-2-methyl-, trans-	054823-94-8
33	14.38	2.94	1,1'-Bicyclohexyl	000092-51-3
34	14.79	1.58	Heptylcyclohexane	005617-41-4
35	15.08	2.27	Isojasmane	011050-62-7
36	15.13	2.04	Perhydrophenalene, (3a.alpha., 6a.alpha., 9a.alpha., 9b.beta.)-	040250-64-4
37	15.23	1.79	1,1'-Bicyclohexyl, 2-ethyl-, cis-	050991-12-3
38	15.53	1.25	Cyclohexane, 1,1'-ethylidenebis-	002319-61-1
39	15.81	2.57	Anthracene, tetradecahydro-	006596-35-6
40	15.95	1.80	Cyclohexane, 1-(cyclohexylmethyl)-4-methyl-, cis- Perhydrophenanthrene, (4a.alpha.,4b.beta., 8a.alpha., 10a.beta.)-	054823-97-1
41	16.09	1.47	Perhydrophenanthrene, (4a.alpha.,4b.alpha., 8a.alpha., 10a.beta.)-	002108-89-6
42	16.63	1.38	Anthracene, tetradecahydro-	006596-35-6
43	16.79	2.07	trans-anti-trans-Tetra-decahydroanthracene	028071-99-0
44	16.86	1.52	Cyclohexane, (3-cyclopentylpropyl) Perhydrophenanthrene, (4a.alpha.,4b.alpha., 8a.alpha., 10a.beta.)-	002883-07-0
45	17.09	1.55	Perhydrophenanthrene, (4a.alpha.,4b.alpha., 8a.alpha., 10a.beta.)-	027425-35-0
46	17.23	1.03	2,6-Naphthalenedione, octahydro-1,1,8a-trimethyl-, cis-	057289-16-4

47	17.31	2.18	Bicyclo[3.1.1]heptane, 2,6,6-trimethyl-, [1R-(1.alpha.,2.alpha.,5.alpha.)]-	004863-59-6
48	17.40	1.55	Phenanthrene, tetradecahydro-	005743-97-5
49	17.46	2.29	Cis-3-methyl-endo-tricyclo[5.2.1.0(2.6)]decane	1000215-29-0
50	18.13	1.22	(-)-E-Pinane	033626-25-4