Team 16, exp. 1

Experiment A

45 mL DI water contacted with 45 mL kerosene with variable initial concentration of acetic acid (AA). A 5 mL sample of aqueous phase was taken and titrated with 1 M NaOH. Volumes needed to neutralize listed below:

Concentration of AA [M]	0	0.25	0.5	0.75	1.0	1.5	2.0
Volume added of 1M NaOH (mL)	One drop	9.3	18.1	28.1	39.3	56.3	79.0

Experiment B

Contactors had following information listed on its face: max throughput 1.9 LPM, max P 22 psig, T 0-120 ^{o}C, volume 0.2 L, weight 32 pounds, material 316L SS.

Pump calibration, volume expelled in one minute is recorded for the settings below:

Pump speed (%)	10	20	30	40	50	60
Volume (mL)	300	650	800	1150	1450	1700

Contacting 0.1 M AA in kerosene with DI water at specified flow rate and 3,000 RPM. Aqueous exit stream sample of 5 mL was titrated with 0.1 M NaOH, volume required to neutralize given below.

Trial	1	2	3	4	5	6
Pump speed (%)	10	20	30	40	50	60
Volume of 0.1 M NaOH (mL)	8.5	8.2	3.6	3.0	2.8	2.7

Experiment C

Contacting 0.1 M AA in kerosene with DI water at 40% flow rate and specified RPM. Aqueous exit stream sample of 5 mL was titrated with 0.1 M NaOH, volume required to neutralize given below.

Trial	1	2	3	4	5	6
RPM	3500	3000	2500	2000	1500	1000
Volume of 0.1 M NaOH (mL)	3.7	3.5	3.8	3.2	2.9	2.7

Contacting 0.1 M AA in kerosene with DI water at 60% flow rate and specified RPM. Aqueous exit stream sample of 5 mL was titrated with 0.1 M NaOH, volume required to neutralize given below.

Trial	1	2	3	4	5	6
RPM	3500	3000	2500	2000	1500	1000
Volume of 0.1 M NaOH (mL)	2.8	2.7	3.0	2.5	2.2	2.3