Team 12, Exp. 1

Pump calibration

The amount of water expelled in one minute was recorded below for both pumps #1 and #2, #1 with water and #2 with kerosene:

Pump speed [%]	20	30	40	50	60	70	80	90	100
Pump 1 water collected [mL]	535	783	1068	1250	1590	1890	2130	2270	2560
Pump 2 water collected [mL]	512	807	1050	1310	1600	1880	2040	2360	2620

Different concentrations of acetic acid in water, with a constant 0.01 M nitric acid, (prepared as detailed in procedure) was contacted with kerosene, 45 mL of each phase. A 5 mL sample of aqueous phase was titrated with 0.1 M NaOH. Amount required for titration provided below:

Conc. AA [M]	0.5	0.25	0.1	0.6	0.17	0.0
Volume 0.1 M NaOH added [mL]	22.4	11.3	4.7	26.9	7.8	0.4

Effect of flow rate on contactor was explored contacted 30% TBP in kerosene with (???) assumed 0.17 M acetic acid and 0.01 M nitric acid in water. Stirring rate was held at 3,000 RPM. A five milliliter sample of the raffinate was obtained and titrated with 0.1 M NaOH.

Pump Speeds [%]	20	30	40	50	60	70	80
Volume of 0.1 M NaOH added [mL]	1.4	1.6	2.0	2.1	2.8	3.1	3.2