

I would recommend this method for this experiment. A direct titration of aspirin would take much longer than a back titration and the human error can be minimized by doing multiple trials of the same tablet.

Experimental:

For experimental procedure, refer to CHM 2354 Lab manual

With the exception of:

- Preparation and Standardization of 0.1 M HCl
 - This was done in Lab 3 and the remaining solution was stored and then used for this experiment as well

Table 1 – Measurement made in preparation of samples

KHP	0.8182g	0.8424g	0.8257g
Aspirin Tablets	0.4164g	0.4181g	0.4232g
Aspirin Powder	0.4226		

Measurement Uncertainty for Table 1 = +/- 0.002g

Results and Discussion

Results

Table 2: Standardization of NaOH with KHP

	Trial 1	Trial 2	Trial 3
Initial volume NaOH (mL)	1.58	0.45	1.54
Final Volume NaOH (mL)	38.65	38.50	38.90
Total Volume NaOH (mL)	36.99	37.97	37.28

Table 3: Back Titration of Tablet ASA Solutions with NaOH

	Powder			Tablet 1			Tablet 2			Tablet 3		
Trial	1	2	3	1	2	3	1	2	3	1	2	3
Vi NaOH(mL)	0.38	16.62	32.90	0.78	17.12	0.38	0.42	16.68	0.12	16.08	1.38	17.10
Vf NaOH(ml)	16.62	32.90	49.12	16.36	33.22	16.32	16.68	32.65	16.20	32.18	17.10	32.84
Vt NaOH(mL)	16.24	16.22	16.22	16.36	16.10	15.94	16.26	15.97	16.08	15.98	15.72	15.74

Measurement Uncertainty for Tables 2&3 = +/- 0.02 mL