

New progress of LAB optical purification

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Distillation Process: 【Total weight: 944.31g】

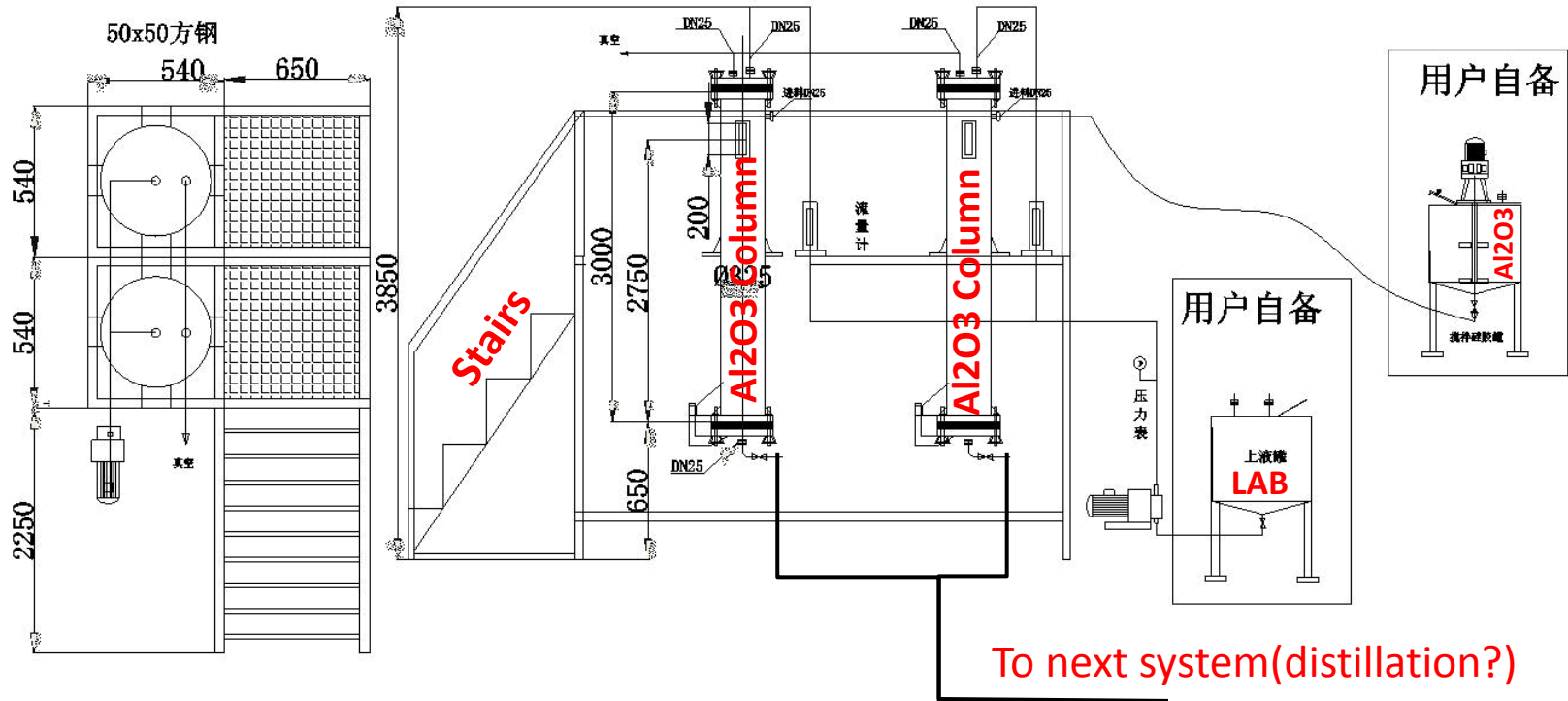
Date	Raw LAB: g	Distillate 1: g	Distillate 2: g	Distillate 3: g	Remain: g
8-11	185.71	7.29	45.38	9.08	121.55
8-12	195.07	7.82	52.97	10.04	122.71
8-13	207.75	6.7	70.62	7.81	122.23
8-14	197.83	7.9	68.91	5.41	115
8-15	197.03	7.47	70.88	5.6	113.08
8-18	198.24	9.68	74.63	5.54	106.44
8-19	193.11	9.99	77.17	8.27	97.73
8-20	206.00	8.53	79.22	15.14	103.00
8-21	192.01	8.81	59.20	9.11	114.79
8-22	199.73	6.62	62.82	5.4	124.98
8-25	197.02	8.20	69.09	4.33	115.16
8-26	192.54	7.27	68.98	4.88	113.66
8-27	201.35	8.93	77.21	4.95	109.67
8-28	198.87	7.27	67.23	3.00	120.53
Total	2762.26	112.48	944.31	98.92	1600.53

A.L. result

Sample name	Attenuation Length
Al ₂ O ₃ Purified LAB	~ 21.0
Distilled LAB after purified by Al ₂ O ₃	$6.68 \pm 0.06\text{m}$

- The result confirms our distillation system can't improve the A.L. of LAB again;
- We will wait Paolo's distillation system to compare with this result.

Prototype design of Al₂O₃ Column



- Add Al₂O₃ to column by vacuum pump;
- LAB will be pumped to Al₂O₃ column;
- The final size of prototype is not decided;
- The inner surface of stainless steel column must be very smooth.

Next step

- We will use this device to start middle-test;
- To decide the Al_2O_3 column prototype size. We will do some experiment of changing the column ratio of height to diameter, such as 6:1 or 8:1.

