



U.S. DEPARTMENT
of **ENERGY**

pfRICH Mirror R&D

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X f i n @BrookhavenLab

Overview

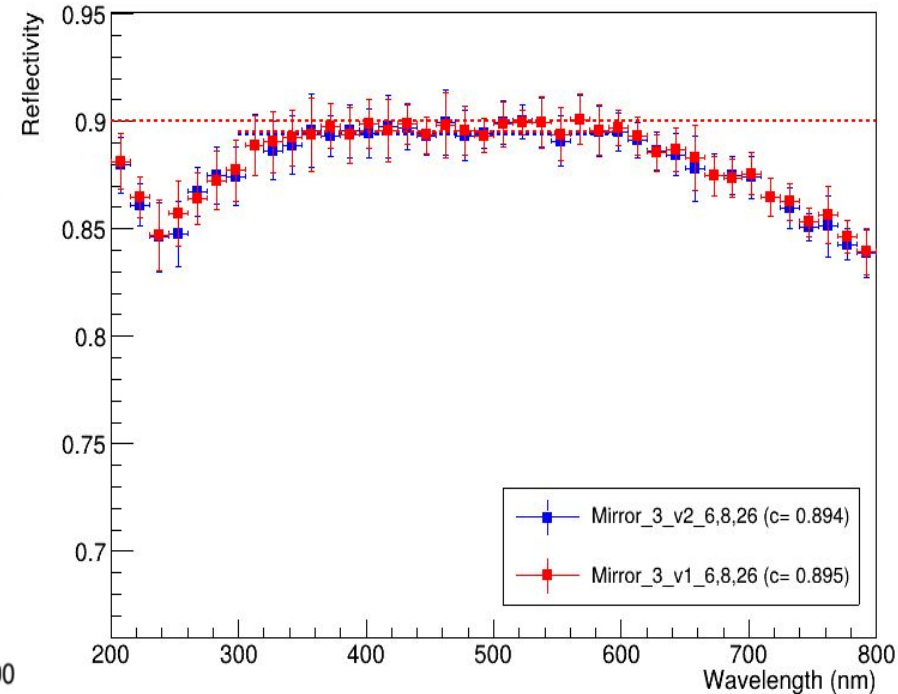
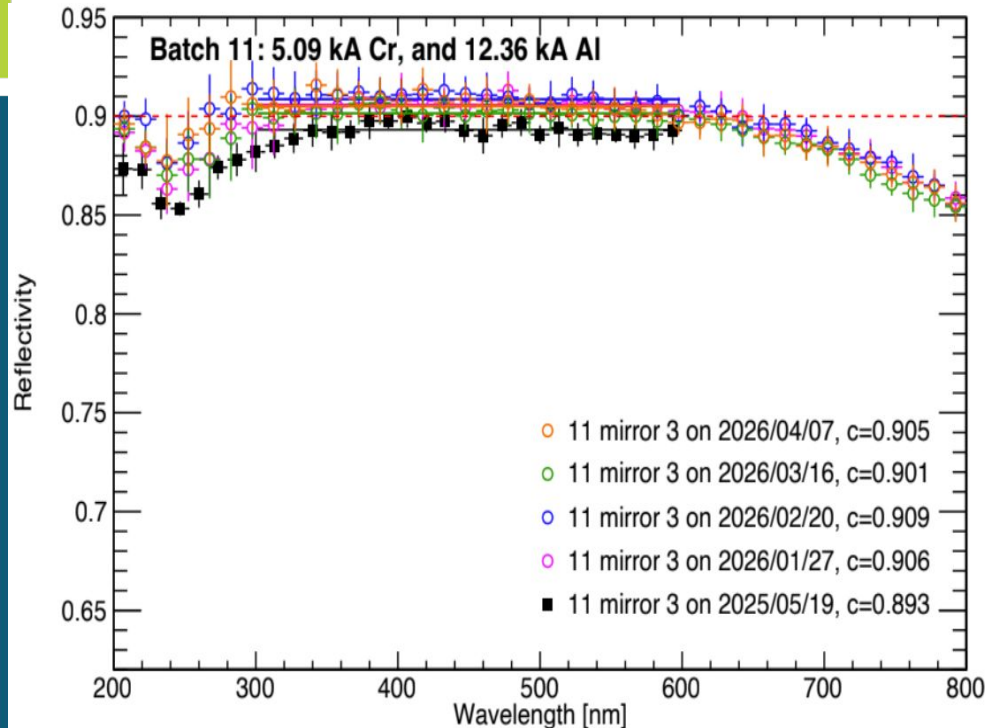
Small Mirrors:

- Repeated reflectivity measurements for coating 11, 59, 61, 62, 63.
- Reflectivity measurement for coating 73.

Large Mirror:

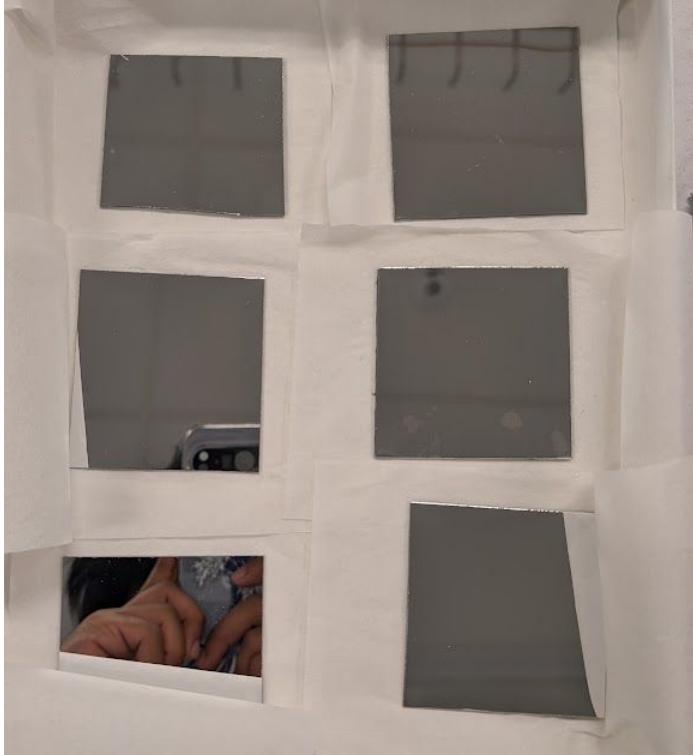
- Rescaled and 3d printed full scale backing for lexan mirrors.

Reflectivity results for coating 11



Re-measured the reflectivity of Coating Batch 11 to cross-check with previous results.
Data remains consistent with previous results.

Coating 73



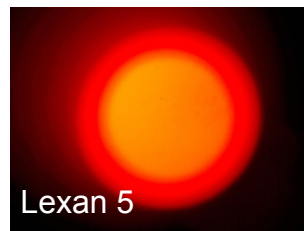
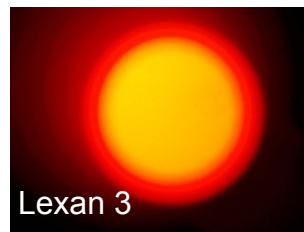
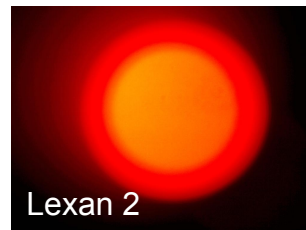
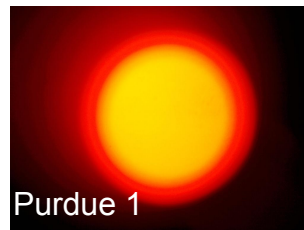
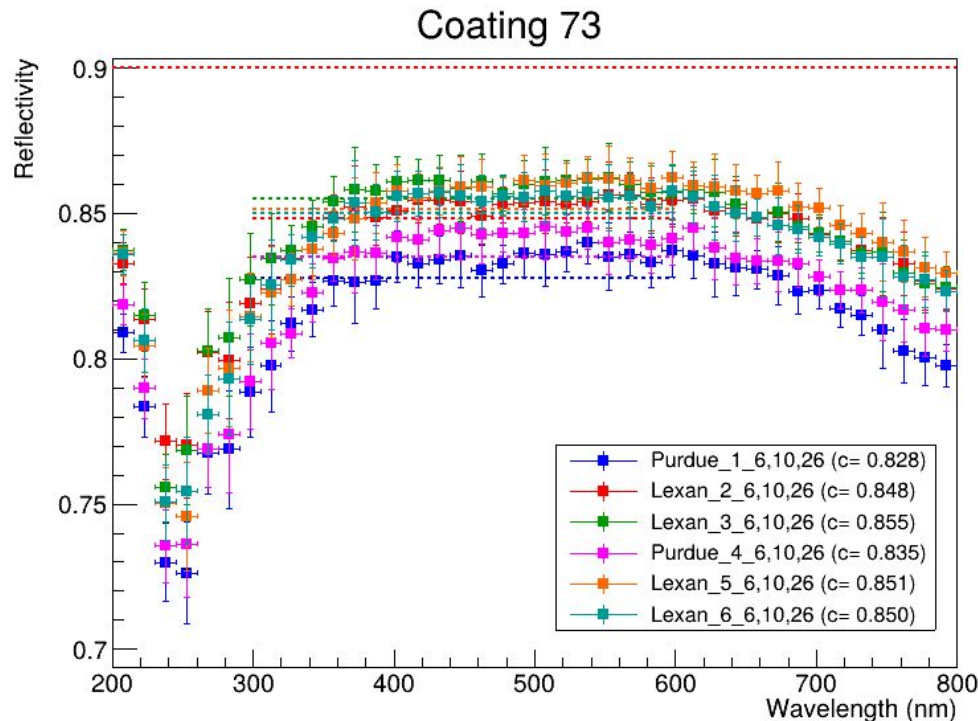
Coating recipe:

- Cr - 5.001 kA
- Al - 19.997 kA
- SiO_2 - 0 kA

Objective:

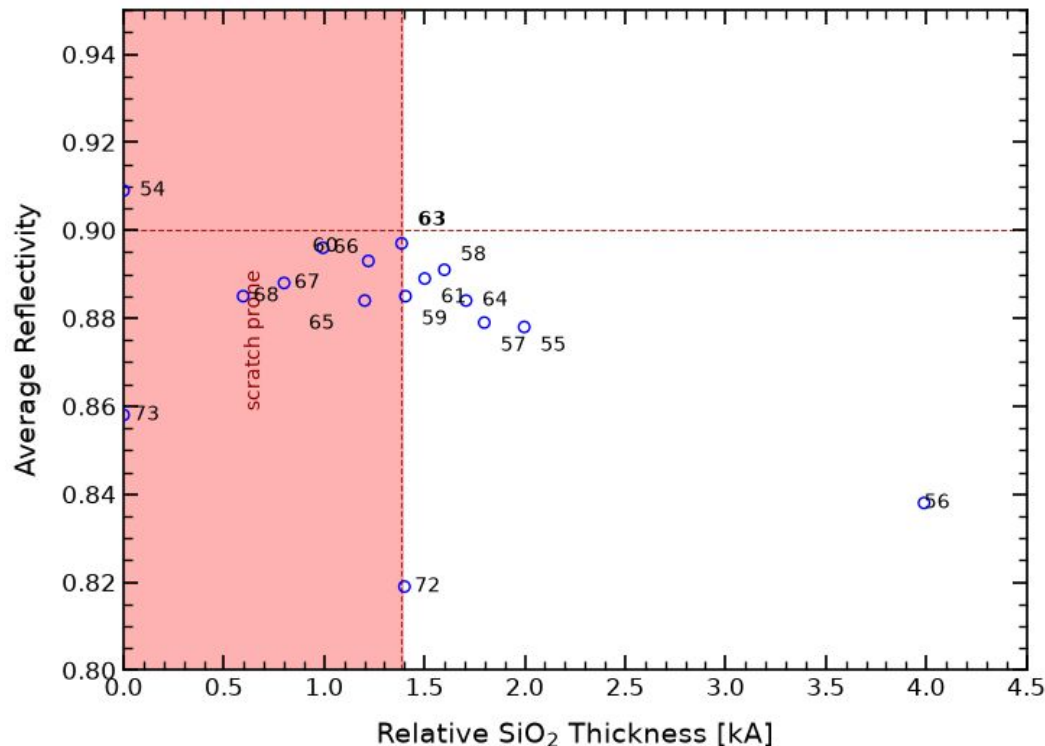
Solve the reflectivity dip from coating 72.

Coating 73 Reflectivity Results



Reflectivity lower than expected at 5,20 kA. Might be due to degrading QCM.
Next coating will be 6,24kA.

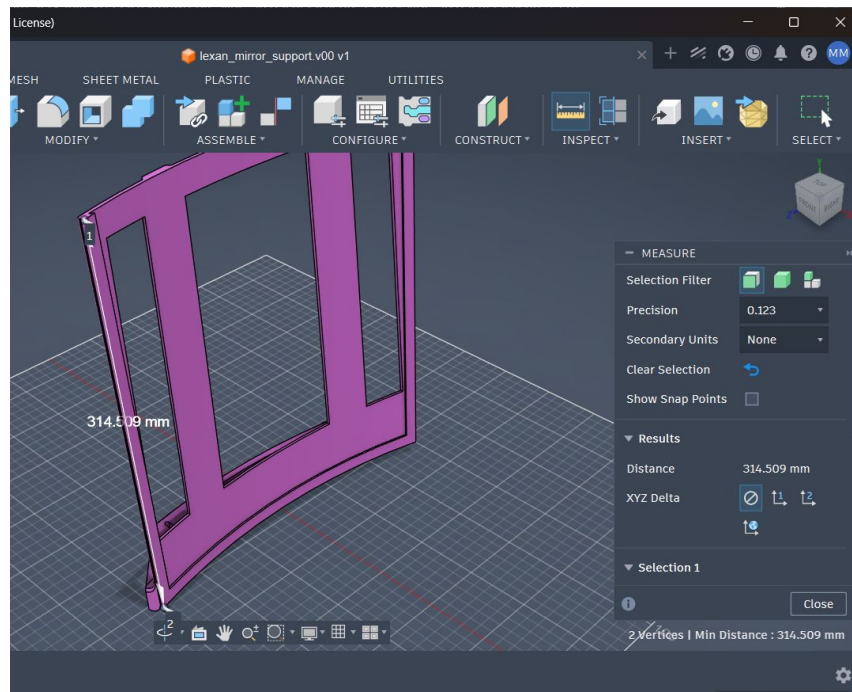
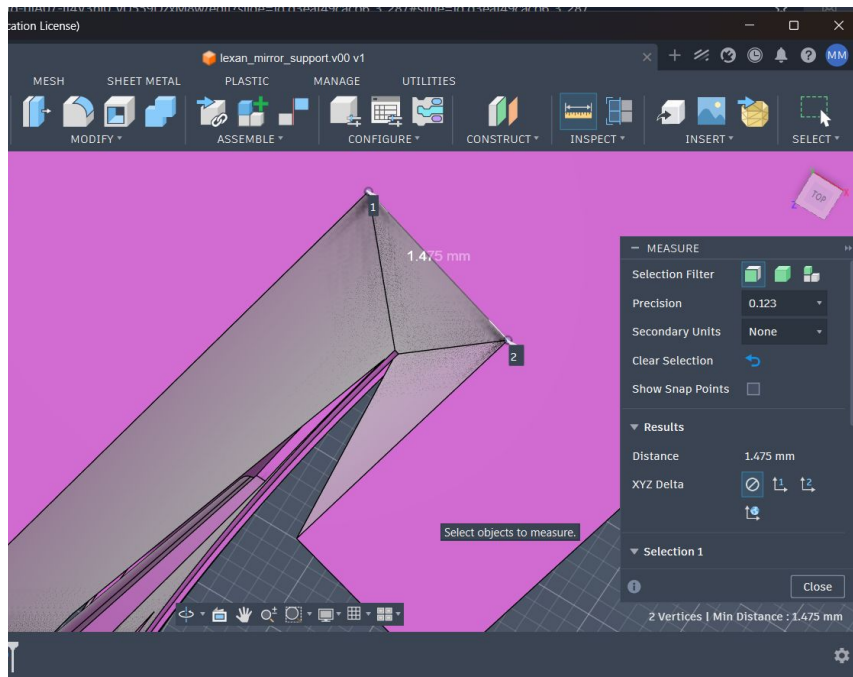
Summary with SiO₂ Layer

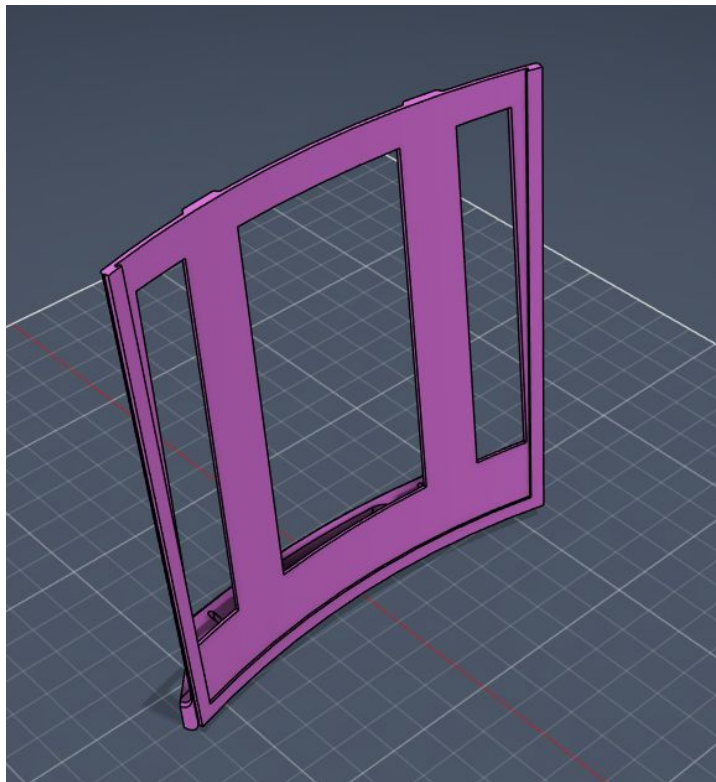


Batch	Cr [kÅ]	Al [kÅ]	SiO ₂ [kÅ]	Reflectivity
73	5.001	19.997	0	85.8%
72	3.995	15.994	1.400	81.9%
71 (test beam)	4.000	15.999	1.398	
70	3.992	16.001	1.397	
69 (full scale)	3.996	15.990	1.389	
68	4.003	15.996	0.596	88.5%
67	4.000	15.997	0.800	88.8%
66	4.001	16.010	0.994	89.6%
65	3.999	16.008	1.202	88.4%
64	4.048	16.012	1.707	88.4 %
63	3.996	16.006	1.386	89.7 %
61	3.996	16.000	1.501	88.9%
60	4.008	16.005	1.220	89.3%
59	4.050	16.040	1.405	88.5%
58	4.004	16.032	1.599	89.1%
57	4.003	16.003	1.798	87.9%
56	4.003	16.027	3.990	83.8%
55	3.997	16.028	1.997	87.8 %
54	4.010	16.000	0.000	90.9%

Full Scale Lexan Mirror Support

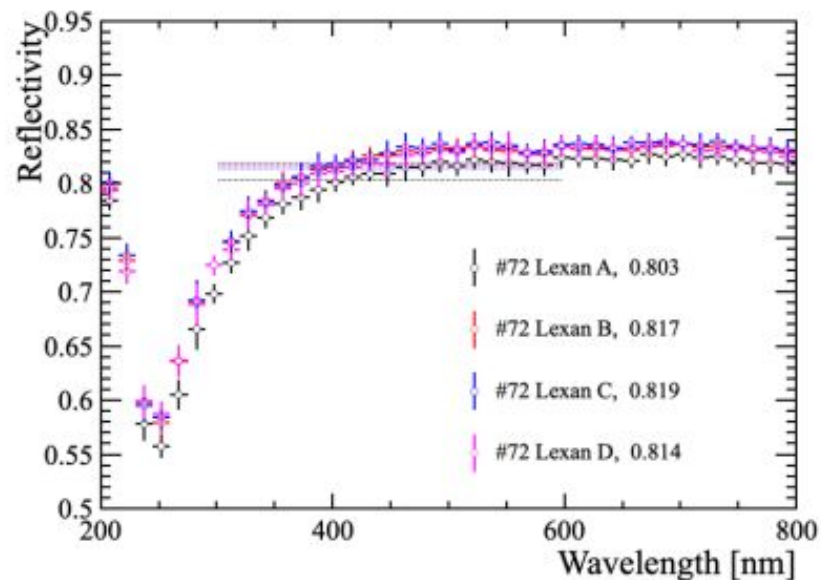
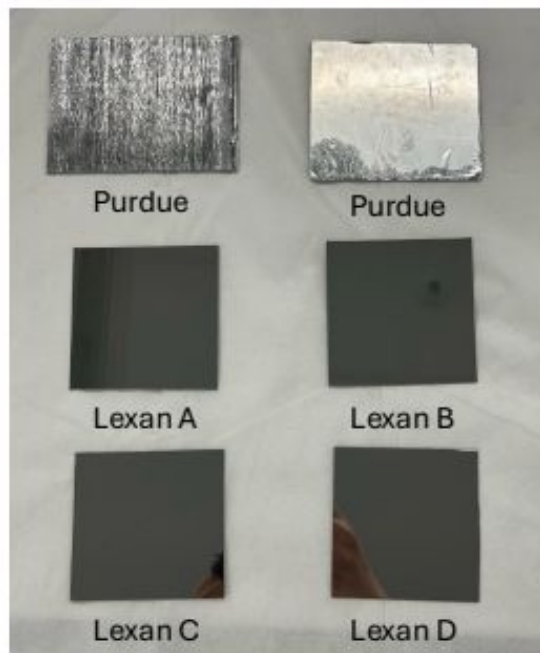
Full scale lexan support rescaled for printer and substrate dimension.



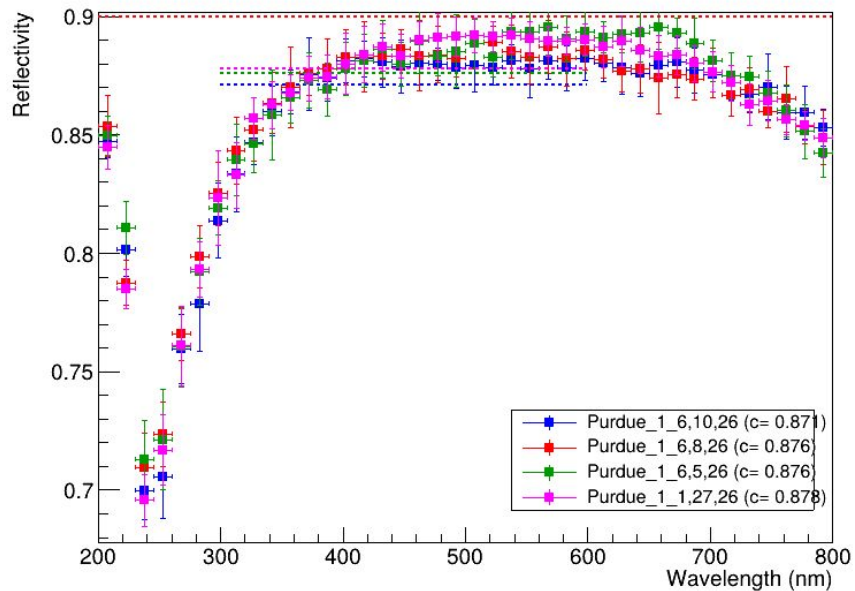


Backup Slides

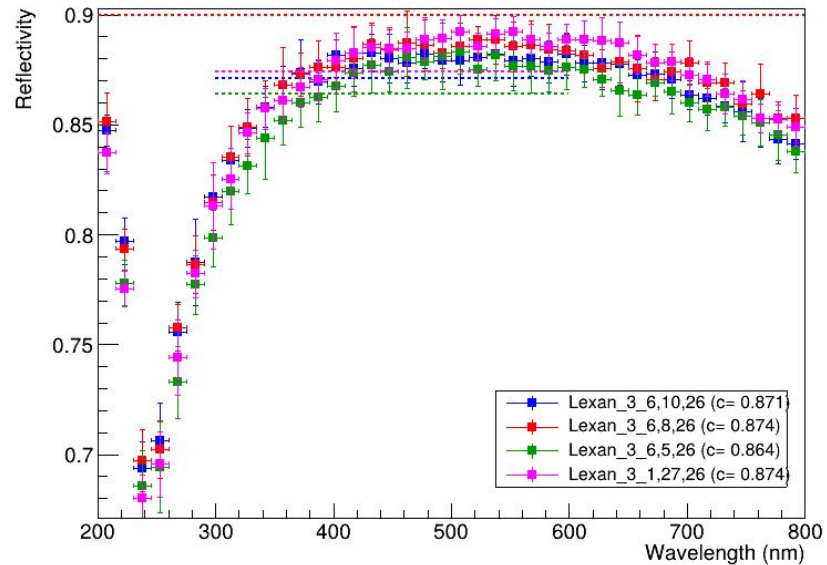
Coating 72



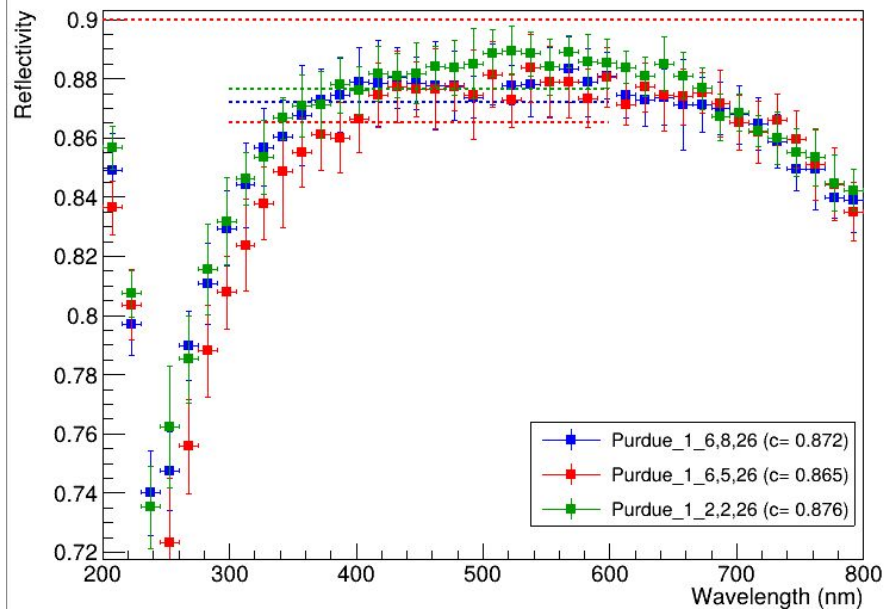
Coating 59



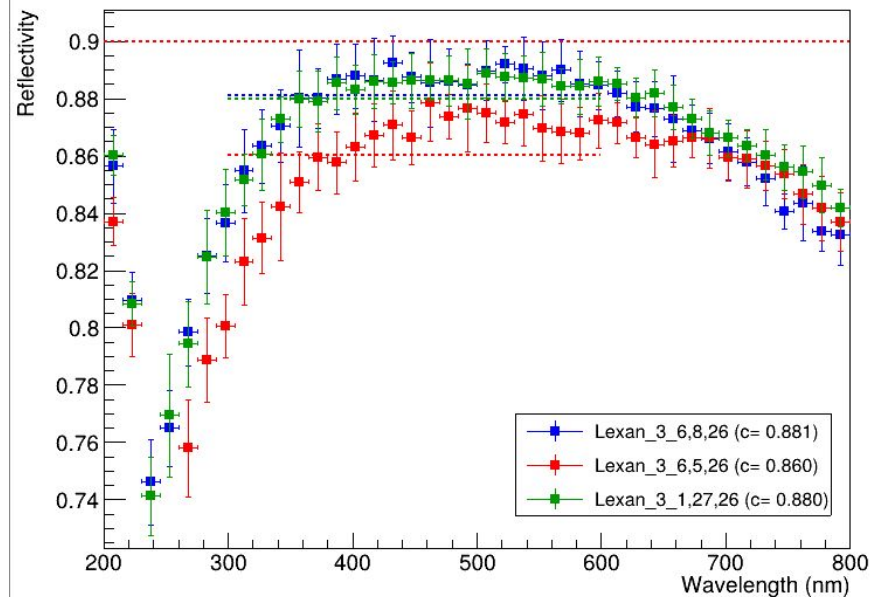
Coating 59



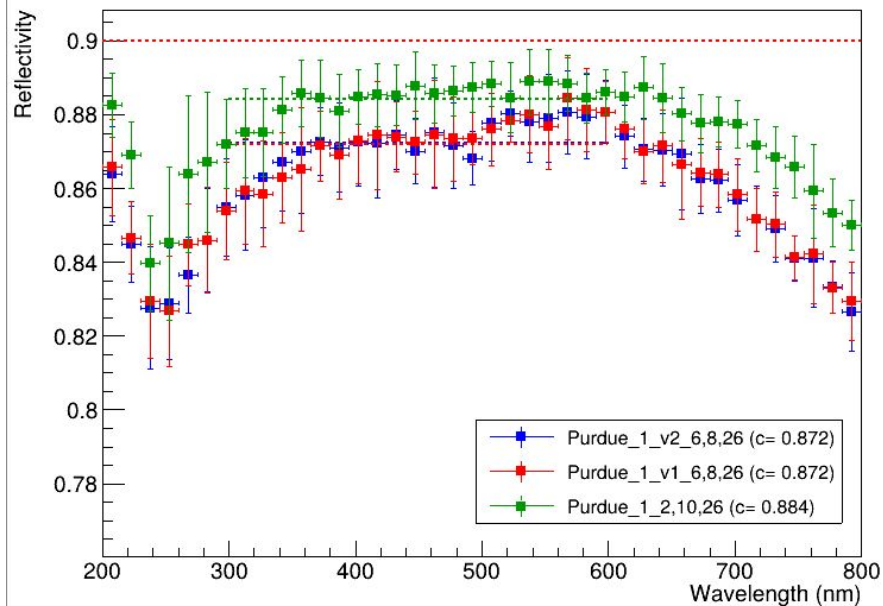
Coating 61



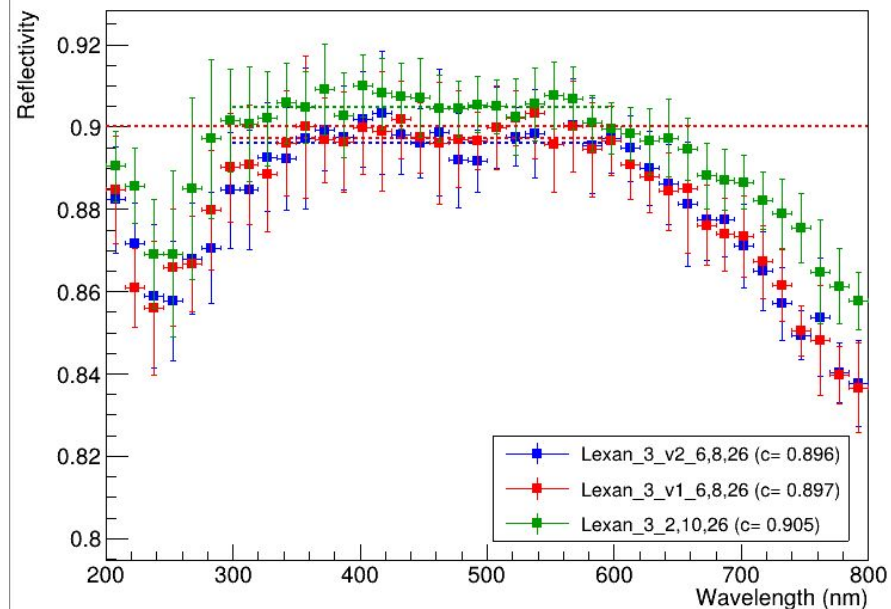
Coating 61



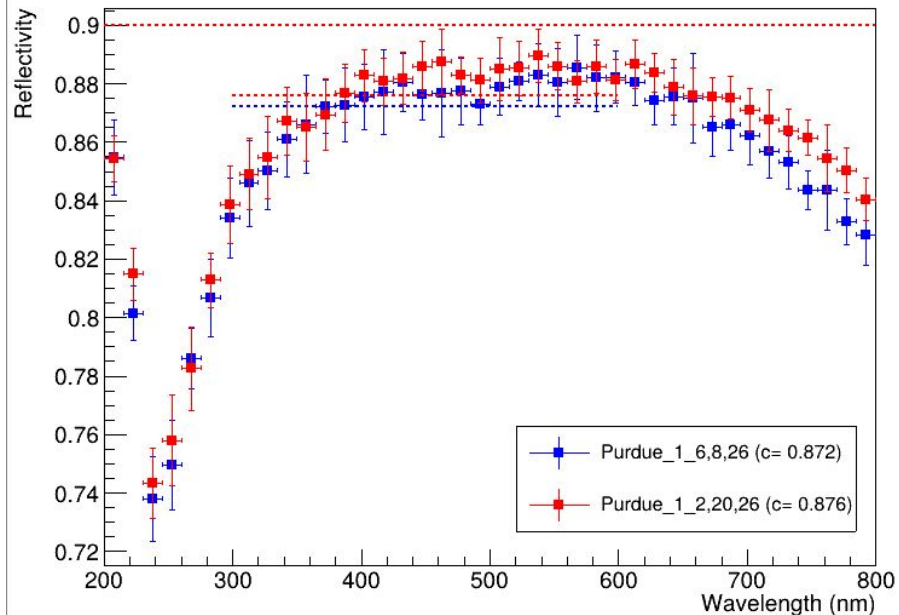
Coating 62



Coating 62



Coating 63



Coating 63

