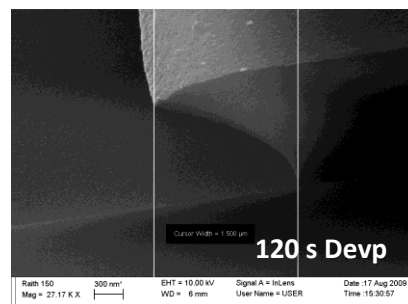
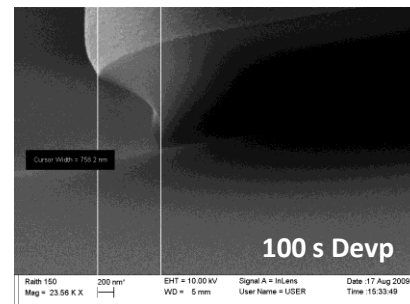
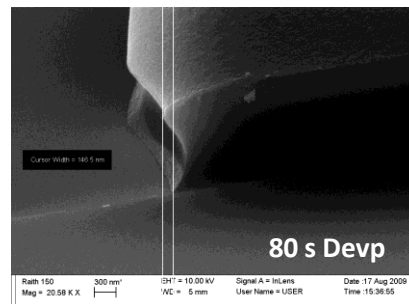
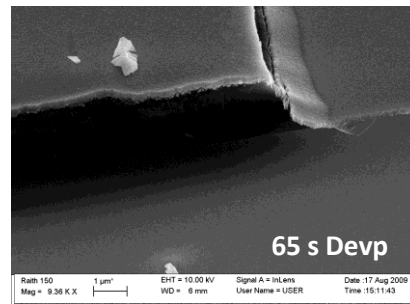
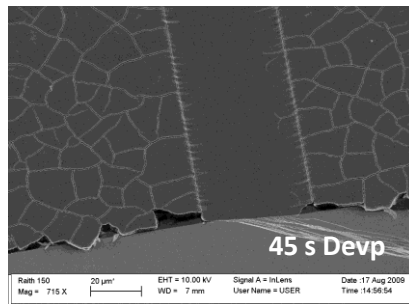


Optical Lithography

Process for ma-N 1420

- 1) **Clean:** using Acetone and IPA and bake at 85°C for 15 minutes in an oven
- 2) **Prime:** HMDS 4000 rpm, 60s
- 3) **Spin Coat:** 3000 rpm, 30 s
- 4) **Pre-bake:** 100°C for 2 minutes on hotplate
- 5) **Expose:** 550 mJ/cm² (~ 63 s using our MA6, the intensity was 8.8 mW/cm²)
- 6) **Develop:** ma-D 533s developer for different times (45 s to 120 s) to change the undercut profile

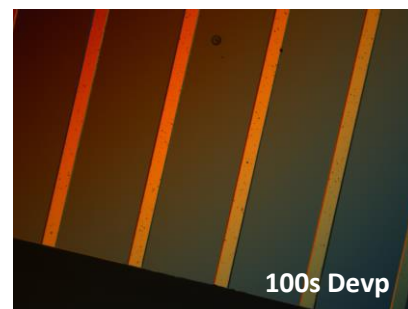
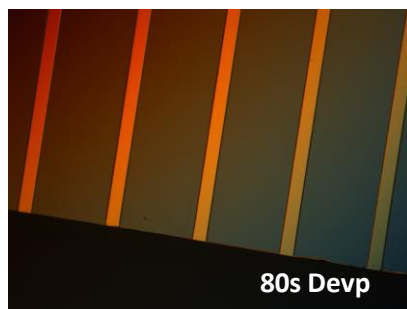
Result: Development time of 100s is ideal for lift-off using e-beam evaporation while 120s is ideal for sputtering. Tried liftoff using e-beam evaporation for samples developed for 45s and 65s but due to positive slope of the structures, the metal pattern was not good.



Lift-off

Sputtered Gold

Samples were developed for different times following the standard exposure. Need to used ultrasonicator for 30s after soaking in acetone for about 15 minutes.



E-beam evaporated Gold

