



Figure: 1) Schematic of laser-enhanced ALD process with a shadow-mask. A cross-shaped shadow mask is used, with a cross that has an arm width of 1 mm and wingspan of 5 mm. Much of the laser beam is blocked by the mask, leaving a cross-shaped illuminated area on the gold substrate during the ALD process. **2)** Area map of the TiO₂ film thickness after the ALD process with laser excitation (515 nm laser with a power of 45.5 mW) partially blocked by the previously described cross-shaped shadow mask. This map is constructed from ex-situ ellipsometry data.