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# Ordered Au nanodot formation on H-passivated Si using the self-standing anodic aluminum oxide mask

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In order to form the ordered nanodots with the same density as that of nanopores in the anodic aluminum oxide(AAO) on arbitrary substrates, it is necessary to fabricate a self-standing AAO mask or its replica mask. Due to the fragile character of inorganic AAO, it is hard to fabricate self-standing AAO mask with a reasonable size. In addition to such fragility, the aspect-ratio of nanopore in the AAO is critical for evaporated atoms to pass through it. In this presentation, we will show how to fabricate a reliable self-standing AAO mask using sequential techniques such as AAO detaching from Al plate and removal of barrier layer. We will also present the AFM image of Au-nanodots thermally deposited on H-passivated Si substrate using this self-standing AAO mask. From the distribution of Au dots with the hexagonal symmetry identical to that of AAO nanopores, it can be confirmed that such a fabrication method to form ordered nanodots is working.