

| Properties of Ta Precursor | |
|----------------------------|--------------------|
| Appearance | Pale Yellow Liquid |
| DSC T _d | 331 °C |
| TGA T _{50%} | 199 °C |
| TGA Residue | < 0.1 % @ 400 °C |
| Viscosity | 22cP @28 °C |

Table. 1 Chemical Properties of hybrid ligand Ta Precursor

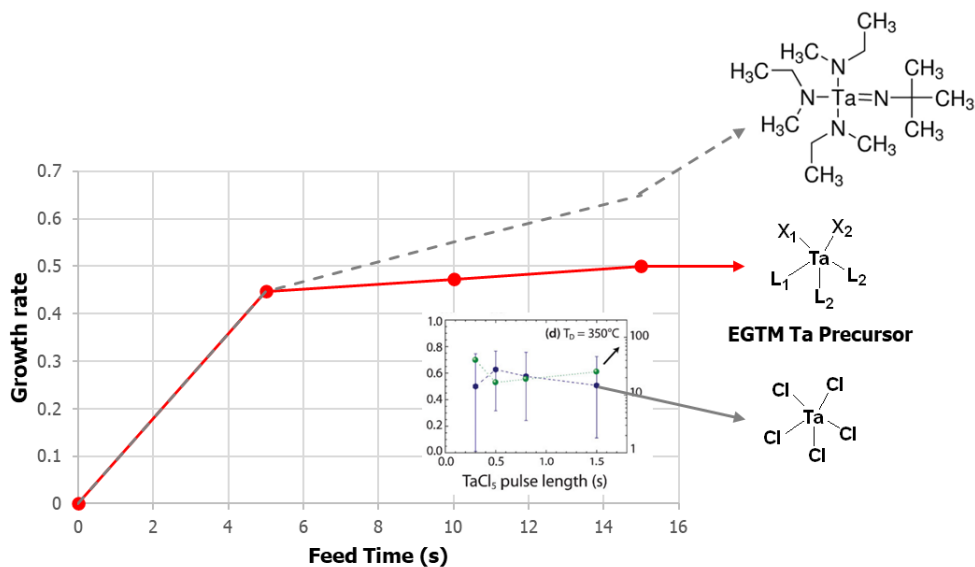


Fig. 1 Self Limiting Growth Data of EGTM Organic-Halide Ta Precursors

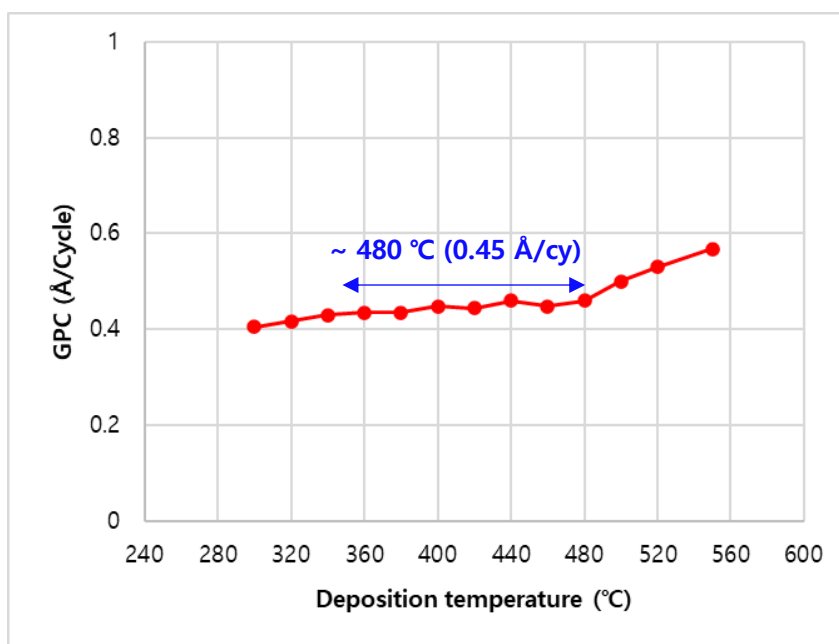


Fig. 2 TaO ALD window of EGTM Organic-Halide Ta Precursors