

Development Project of "New Co Precursors" Ver.2

Target : **CoOx**

Code Name	TCCo-33
1) TGA _{1/2} (°C)	196
Residual mass (%)	< 1%
2) DSC (°C)	237

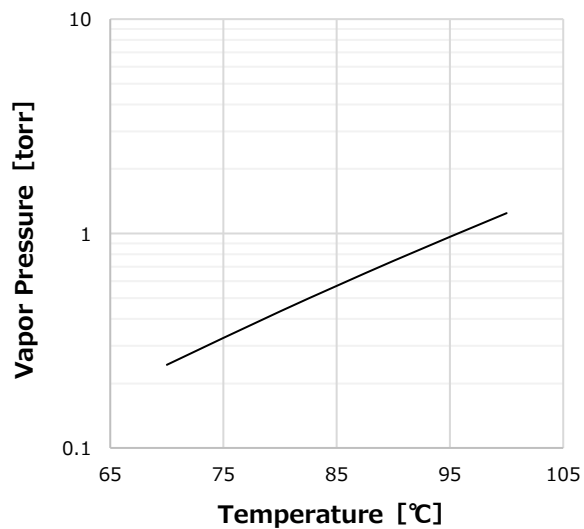
1) TGA (Thermogravimetric Analysis) : Volatility property of precursor

- TGA_{1/2} (°C) : Temperature at 50% vaporization (low temperature → high volatility)

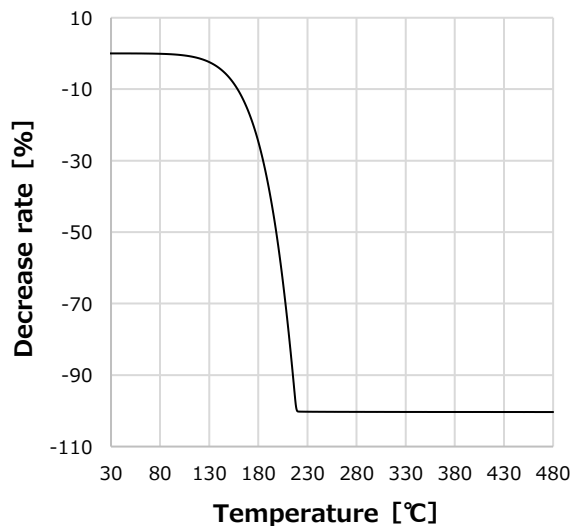
- Residual mass (%) : Residue mass after vaporization (low value → good thermal stability)

2) DSC (Differential Scanning Calorimetry) : Decomposition temperature of precursor

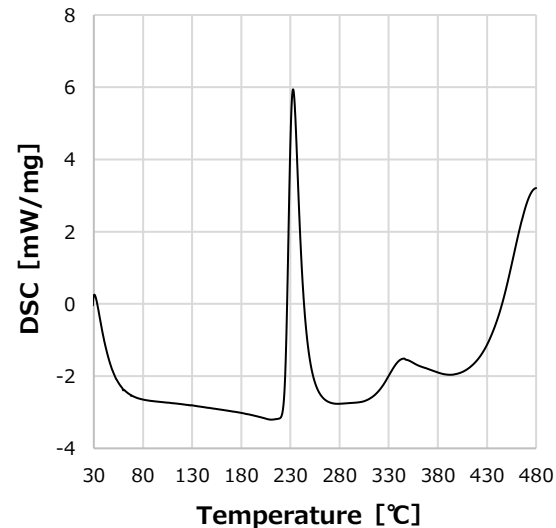
■ Vapor Pressure curve



■ TGA curve



■ DSC curve



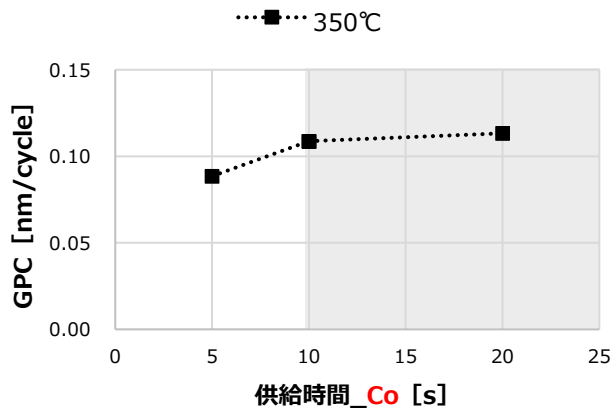
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ALD evaluation ~ TCLC ~

Precursor	TCCo-33
reactant	O3
substrate	Si
Remark	Co3O4

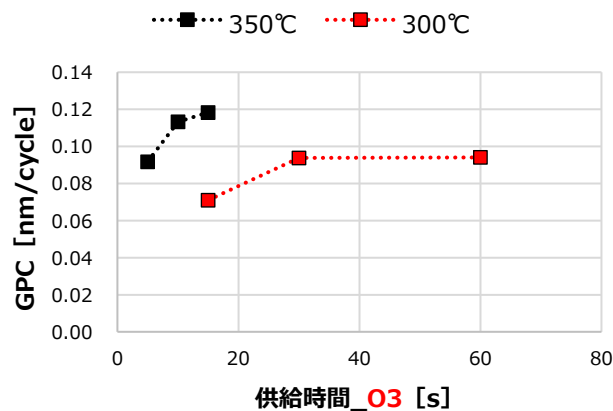
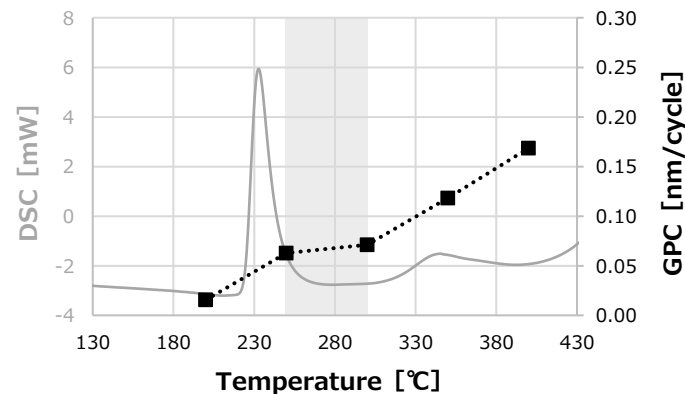
[ALD cycle test I]

Saturation curve

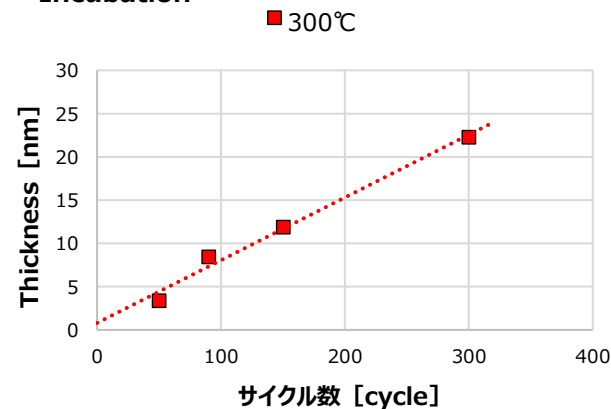


[ALD cycle test II]

ALD window



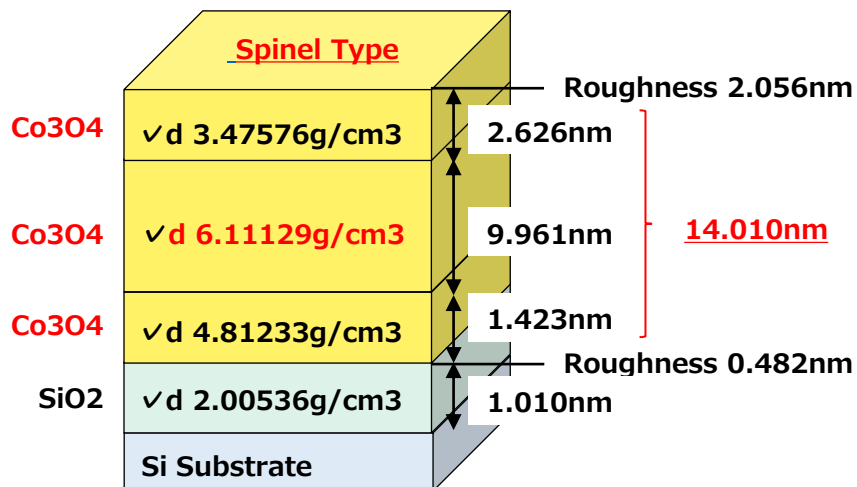
Incubation



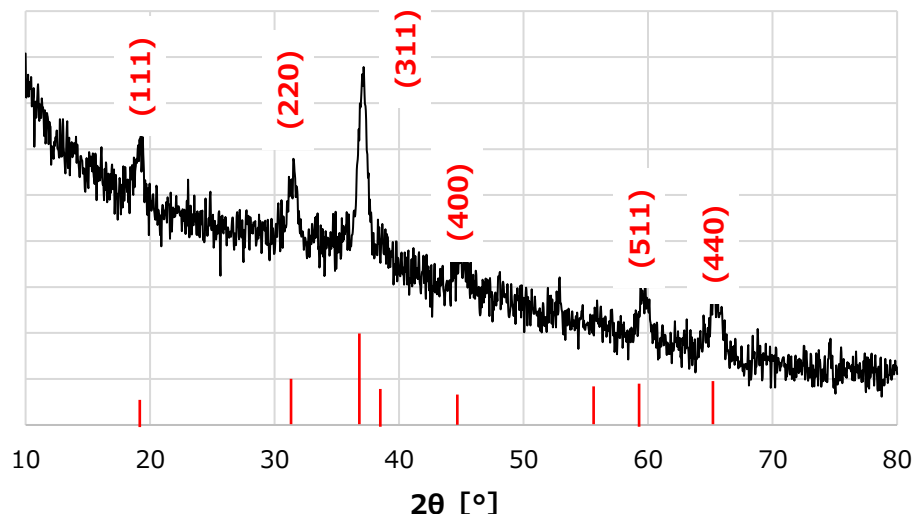
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X-ray analysis (I) ~ YOKOHAMA National University ~

Deposition Temp. @300°C



[GIXRD Chart]



[XRR Chart]

