

Rapid Analysis of Phthalocyanine Based Pigments by ionRocket-DART-MS

[Abstract] Phthalocyanine based pigments were used for organic semiconductor and organic electroluminescence display, due to its clearness, high light stability and durability. It was difficult to analyze chemical structure, due to its larger molecular weight and lower solubility. DART-MS (Direct analysis in real time- mass spectrometry) analysis with using ionRocket provides structural information rapidly and briefly. This analysis system could be done in atmospheric conditions, without pre-treatment. In this report, we showed the result by ionRocket-DART-MS of phthalocyanine based pigments, without pre-treatment.

[Samples] Titranyl phthalocyanine, Mmi: 576.0927 Da, $[M+H]^+$: 577.1003 Da

[Methods] ionRocket was connected to DART-MS directly. The sample was put on the POT and analyzed. Temperature was increased 100 °C per minutes from 30 °C to 600 °C.

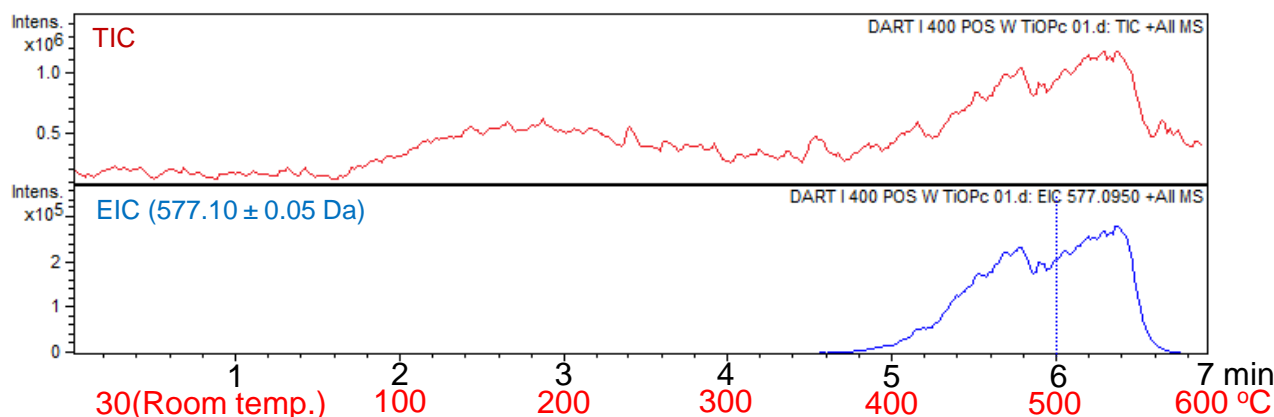
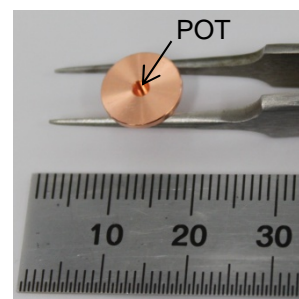


Fig.1 TIC and EIC of titranyl phthalocyanine
Room temperature → 100 °C/min → 600 °C

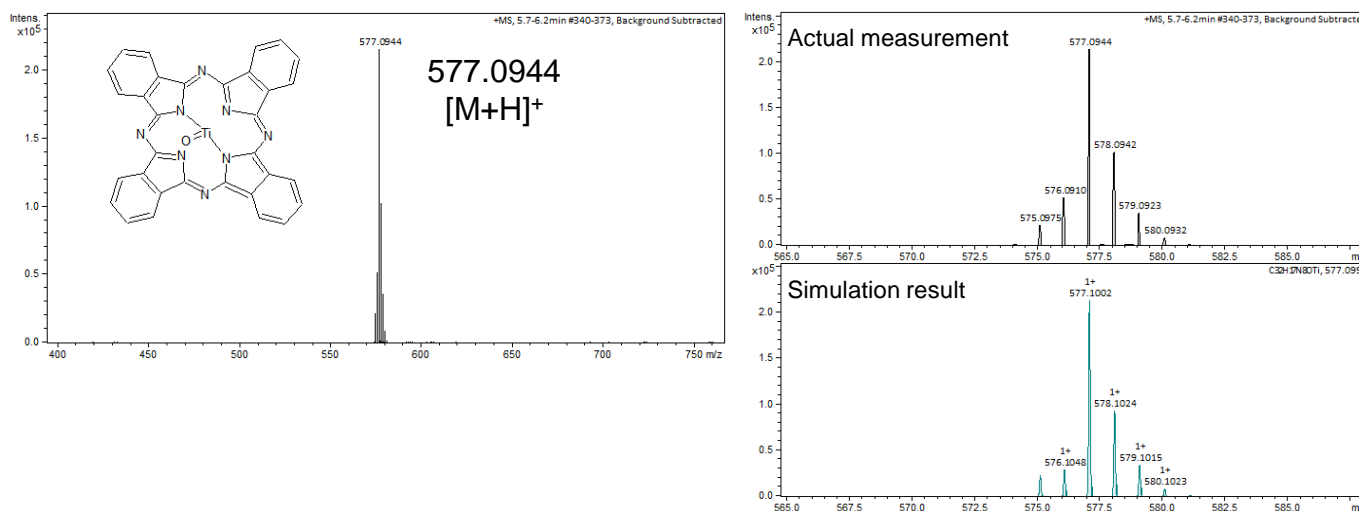


Fig.2 DART-MS spectrum of titranyl phthalocyanine at 500 °C
DART-SVP preset temperature: 400 °C, ionization mode: DART(+)

[Keyword] Organic pigments, Phthalocyanine, Toner, DART-MS

[Target] Chemical industry, Material analysis, Foreign substance analysis

