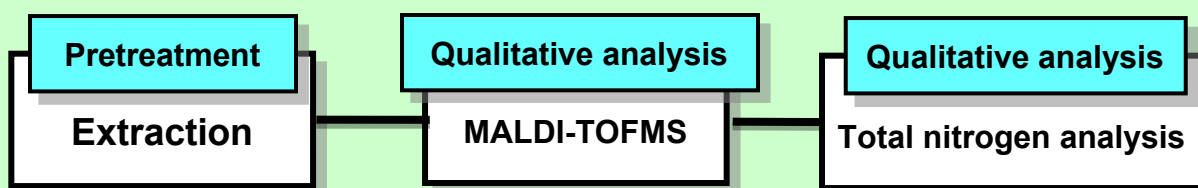


Analysis of high molecular weight hindered amine light stabilizer(HALS).

Abstract

High molecular weight hindered amine light stabilizer (HMW-HALS) has big influence on the performance of polymer's weatherability. It is considered that HMW-HALS can scavenge radicals which are generated by photo-oxidation of a polymer. ANAC has established the precise qualitative & quantitative analysis technology for HMW-HALS by applying the combination of MALDI-TOFMS and total nitrogen analysis.

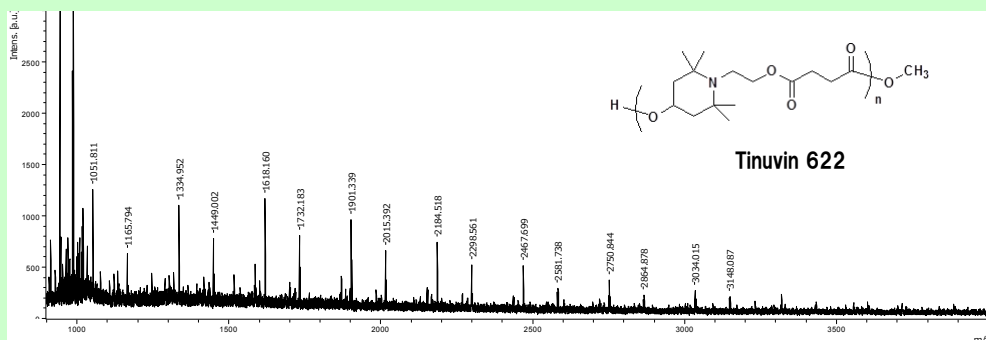
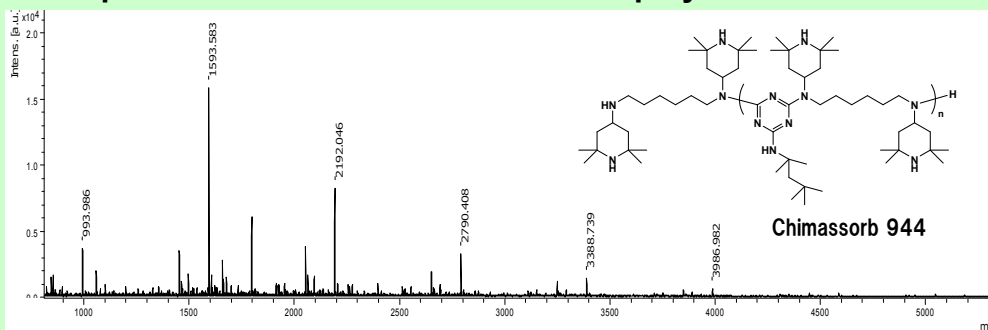
Flow of the analysis



Examples of Qualitative analysis of HMW-HALS

MALDI mass spectra of solutions extracted from polymer materials

<Example 1>



<Example 2>

In both of example-1 and 2, the patterns of repeated mass spectrum of fragments were observed by MALDI-TOFMS. Repeated molecular weights of fragment were m/z 598 and m/z 283 respectively, then Chimassorb 944(example-1) and Tinuvin 622(example -2) were identified.

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