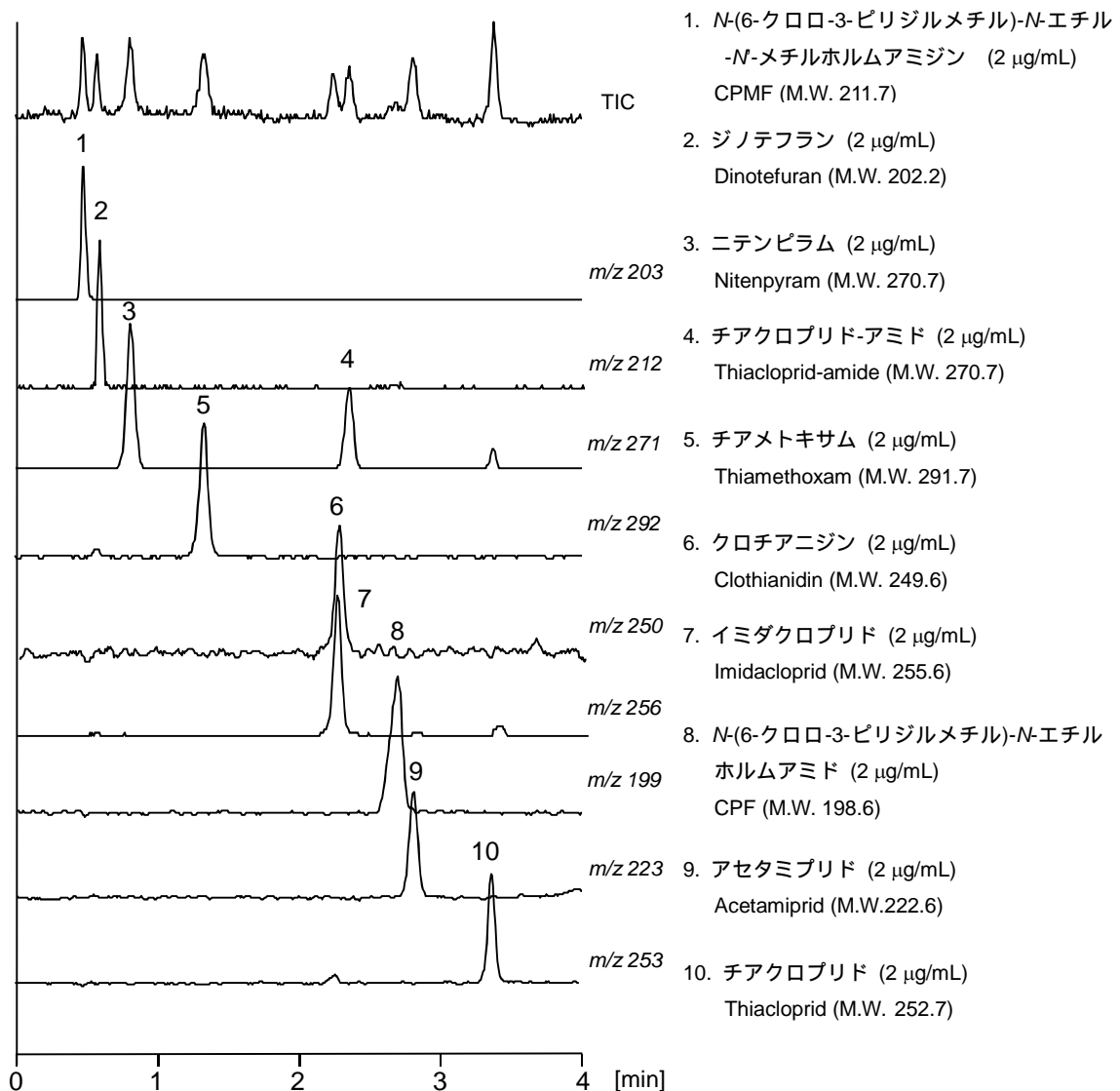


ネオニコチノイド系農薬

Neonicotinoid pesticides

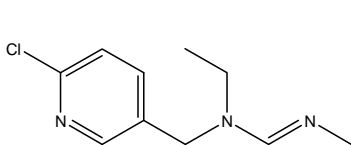
ミツバチ大量死の原因の一つと指摘されているネオニコチノイド系農薬を、CAPCELL PAK C₁₈ MGIII-H S3 (2.0 mm i.d. x 50 mm) を用い、LC-MSにて分析した例を示します。流速を通常の2倍とすることで、ネオニコチノイド農薬および代謝物質を含む12成分について4分以内で測定することが可能です。

Neonicotinoid pesticides that have been pointed out as one of the causes of bee mortality, was analyzed by LC-MS using a CAPCELL PAK C₁₈ MGIII-H S3 (2.0 mm id x 50 mm). By the increased flow rate of 2 times the normal, fast analysis became possible within 4 minutes for 12 components comprising the neonicotinoid pesticides and its metabolites.

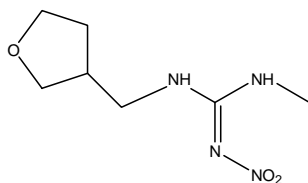


【HPLC Conditions】

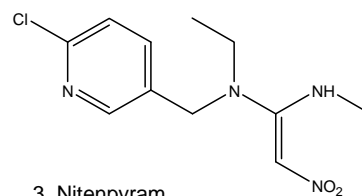
Column : CAPCELL PAK C₁₈ MGIII-H S3 ; 2.0 mm i.d. x 50 mm
Mobile phase : A) 10 mmol/L HCOONH₄ (pH 3, HCOOH), B) CH₃OH
B 20 % (0 min) -> 60 % (4.0 min) -> 20 % (4.1 min) Gradient
Flow rate : 400 μL/min
Temperature : 40 °C
Detection : MS
Ionization : ESI Positive
Inj. vol. : 1 μL
Sample dissolved in : Neonicotinoid Pesticide Mixture Standard Solution (20 μg/mL each, in CH₃CN, Wako: Industries, Ltd, Osaka Japan) was diluted to 2 μg/mL with mobile phase A.
1 μg/mL = 1 ppm



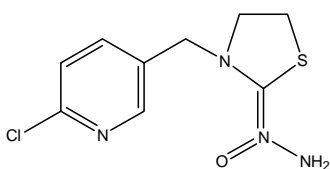
1. CPMF



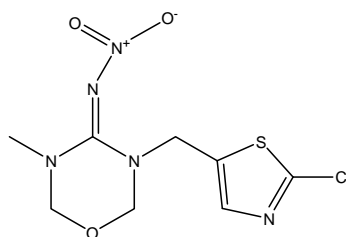
2. Dinotefuran



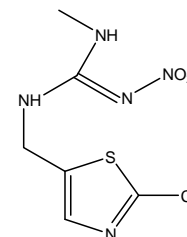
3. Nitenpyram



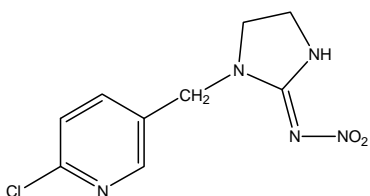
4. Thiachloprid-amide



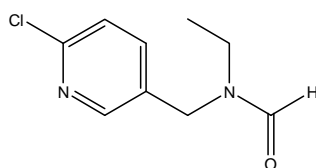
5. Thiamethoxam



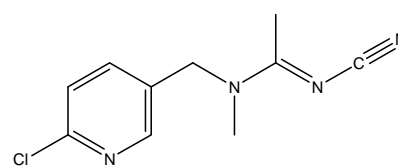
6. Clothianidin



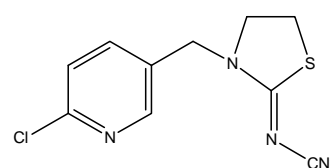
7. Imidacloprid



8. CPF



9. Acetamiprid



10. Thiachloprid