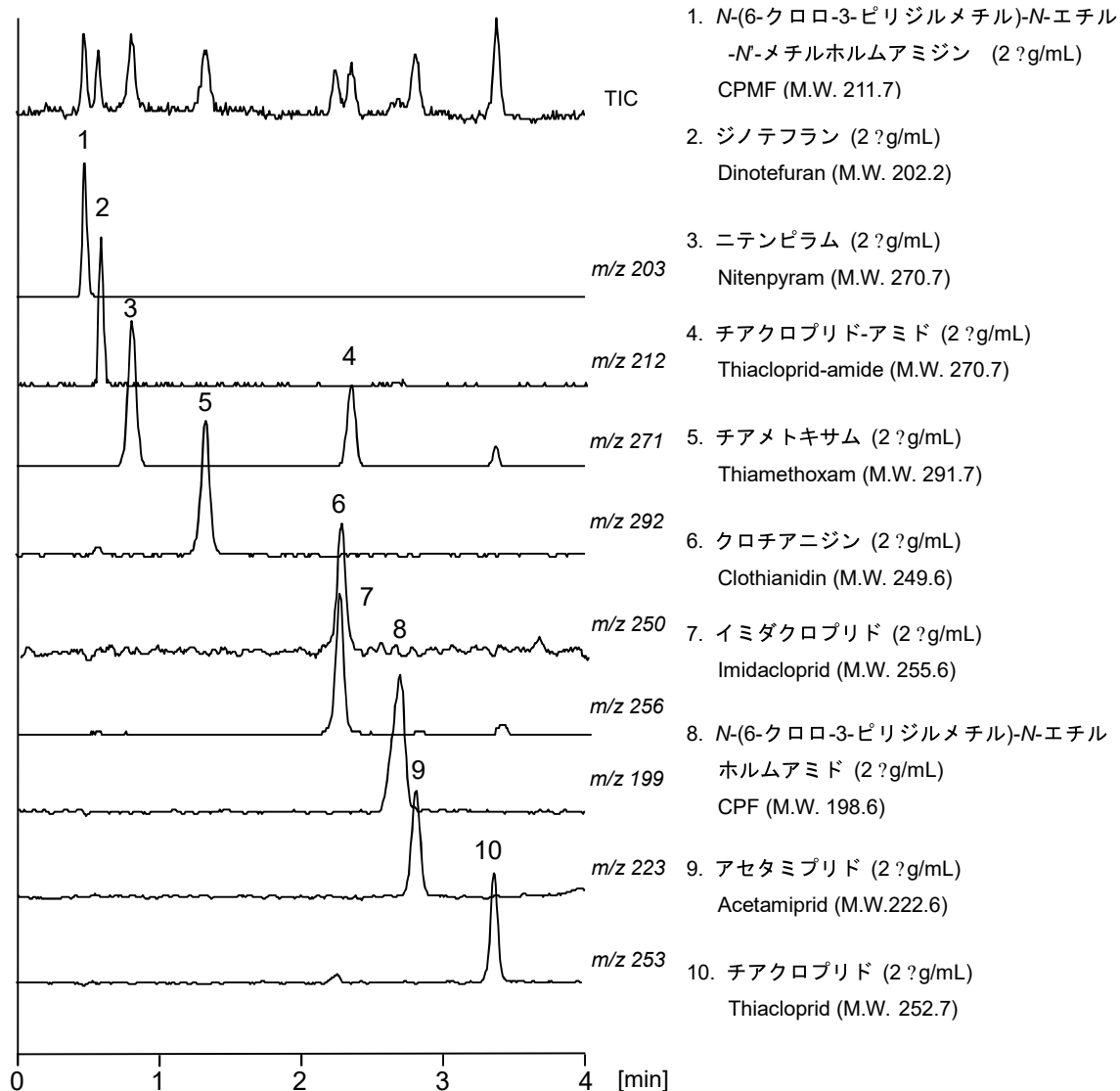


## ネオニコチノイド系農薬

## Neonicotinoid pesticides

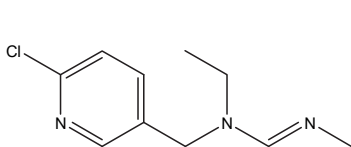
ミツバチ大量死の原因の一つと指摘されているネオニコチノイド系農薬を、CAPCELL PAK C<sub>18</sub> MGIII-H S3 (2.0 mm i.d. x 50 mm) を用い、LC-MSにて分析した例を示します。流速を通常の2倍とすることで、ネオニコチノイド農薬および代謝物質を含む12成分について4分以内で測定することが可能です。

Neonicotinoid pesticides that have been pointed out as one of the causes of bee mortality, was analyzed by LC-MS using a CAPCELL PAK C<sub>18</sub> 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.

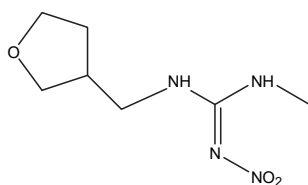


### 【HPLC Conditions】

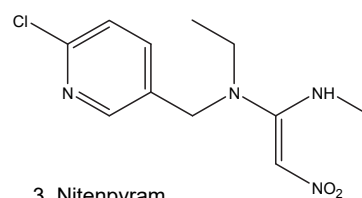
Column : CAPCELL PAK C<sub>18</sub> MGIII-H S3 ; 2.0 mm i.d. x 50 mm  
Mobile phase : A) 10 mmol/L HCOONH<sub>4</sub> (pH 3, HCOOH), B) CH<sub>3</sub>OH  
B 20 %(0 min) -> 60 % (4.0 min) -> 20 % (4.1 min) Gradient  
Flow rate : 400  $\mu$ L/min  
Temperature : 40 °C  
Detection : MS  
Ionization : ESI Positive  
Inj. vol. : 1  $\mu$ L  
Sample dissolved in : Neonicotinoid Pesticide Mixture Standard Solution (20  $\mu$ g/mL each, in CH<sub>3</sub>CN, Wako: Industries, Ltd, Osaka Japan) was diluted to 2  $\mu$ g/mL with mobile phase A.  
※ 1  $\mu$ g/mL = 1 ppm



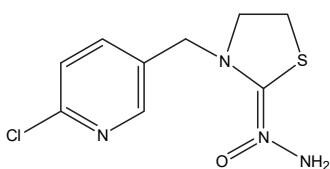
1. CPMF



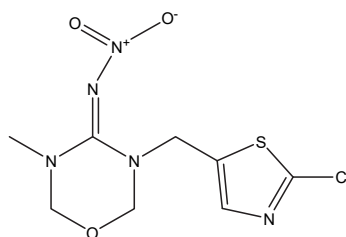
2. Dinotefuran



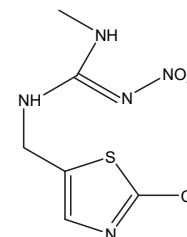
3. Nitenpyram



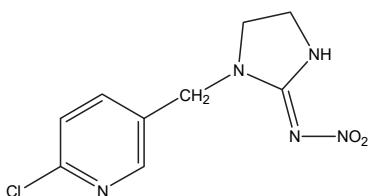
4. Thiachloprid-amide



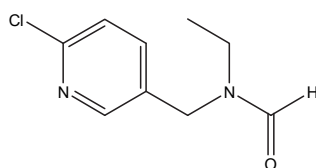
5. Thiamethoxam



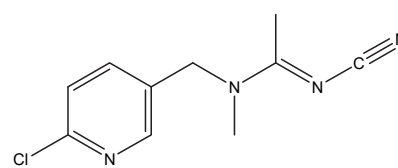
6. Clothianidin



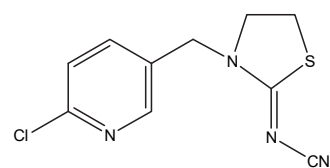
7. Imidacloprid



8. CPF



9. Acetamiprid



10. Thiachloprid