

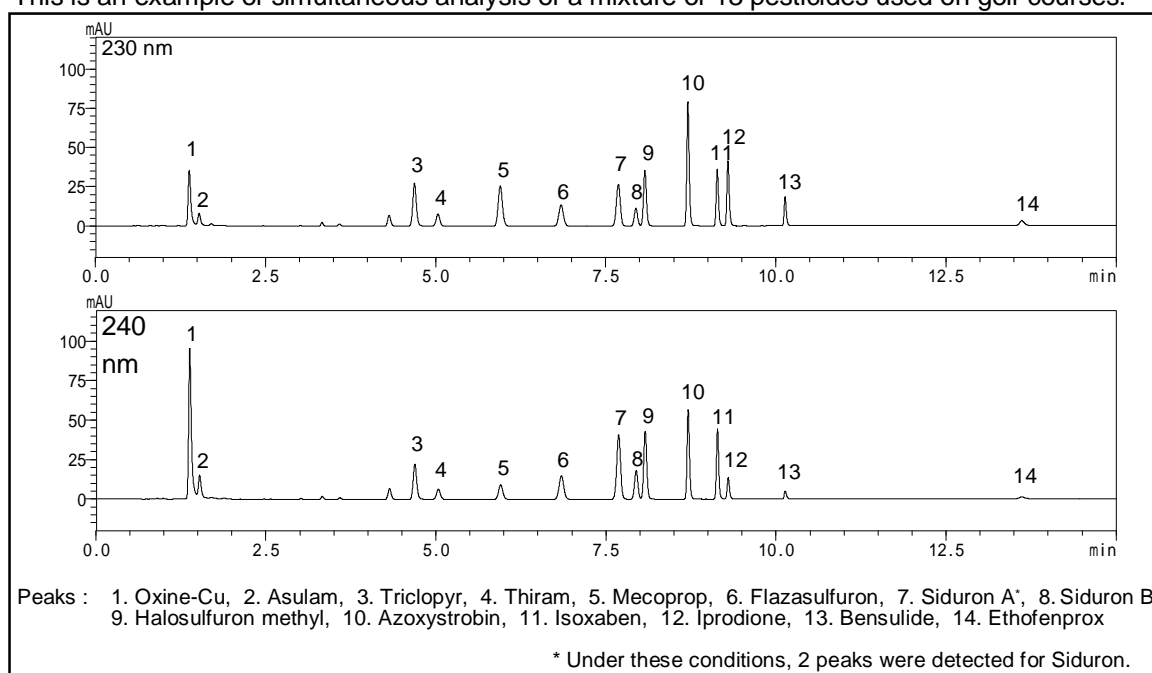
# Application Data Sheet

High Performance Liquid Chromatography

No. 37

## High-Speed Analysis of Pesticides Used on Golf Courses

This is an example of simultaneous analysis of a mixture of 13 pesticides used on golf courses.



### Analysis of Standard Sample Mixtures of 13 Pesticides Used on Golf Courses

#### [Sample Preparation]

- Ten mL of acetonitrile (Wako Pure Chemical Industries Ltd., for thiuram measurement) was mixed with 10 mg standard samples of each pesticide (except for oxine-Cu) and a standard undiluted solution of each pesticide (1000 mg/L) was prepared.
- Oxine-Cu was dissolved in a 6 mL solution of 0.1 mol/L hydrochloric acid, then 4 mL of acetonitrile was added and mixed.
- We mixed 200 mL of each standard undiluted solution in a 10 mL measurement flask, then titrated in purified water to create a standard sample mixture of 13 pesticides (20 mg/L).

#### Analytical Conditions

Instrument	: Prominence UFLC system
Column	: Phenomenex Luna 2.5 $\mu$ m C18(2)-HST (100 mm L. x 3.0 mm i.d. ; 2.5 $\mu$ m)
Mobile Phase	: A) 50 mM (Sodium) phosphate buffer (pH 3.1) B) 50 mM (Sodium) phosphate buffer (pH 3.1)/Acetonitrile = 2/8 (v/v) B.Conc; 25% (0 to 0.85 min.), 25% to 45% (0.85 to 1.7 min.), 45% (1.7 to 3.4 min.), 45% to 50% (3.4 to 6.4 min.), 50% to 100% (6.4 to 10.0 min.), 100% (10.0 to 16.0 min.)
Flow Rate	: 0.8 mL/min.
Column Temperature	: 40 °C
Detection	: Absorbance at 230 nm and 240 nm with Semi-micro flow cell (PDA)
Sample Volume	: 4 $\mu$ L