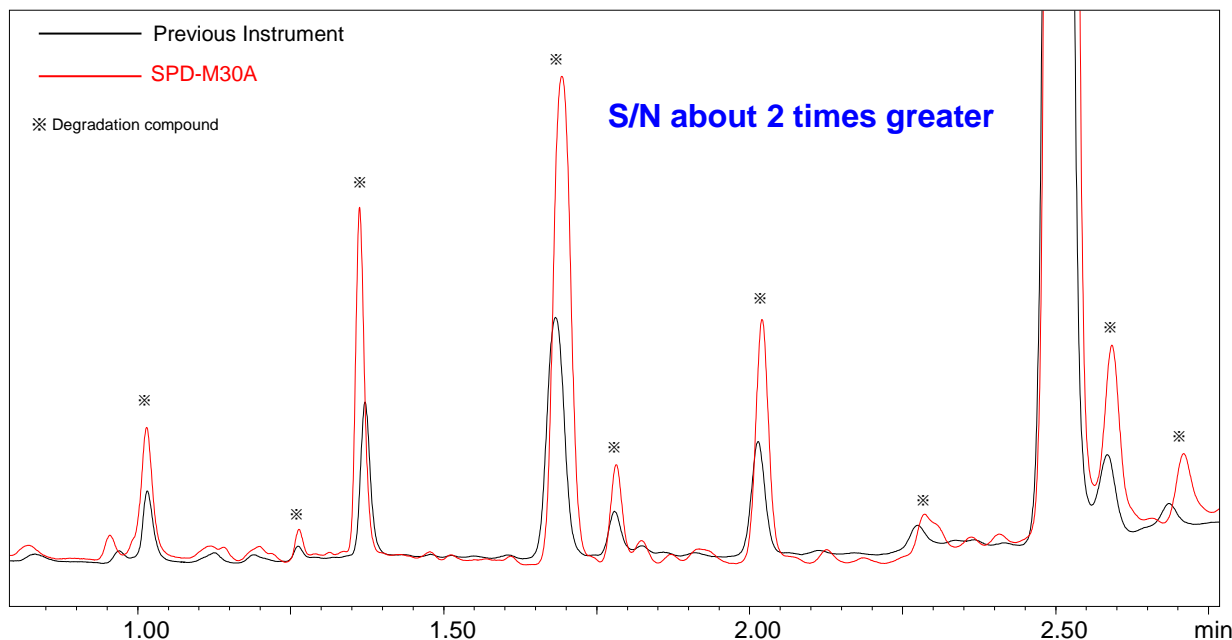


High-Speed and High-Sensitivity Analysis of Cefazolin Using SPD-M30A

Impurities present in drugs that are suspected of genotoxicity must be subjected to separation and quantitation at trace levels lower than typically required. With the SPD-M30A high-sensitivity photodiode array detector, even extremely trace level components can be detected and quantitated. Here we introduce an example of ultra-high-speed, high-sensitivity analysis of the degradation products of cefazolin.

Example of Analysis of Cefazolin

We conducted analysis of the degradation products of cefazolin using the Nexera SR ultra high performance liquid chromatograph. This system, which features the SPD-M30A high-sensitivity photodiode array detector, utilizes the newly designed capillary SR-Cell (Sensitivity and Resolution Cell), successfully achieving both low noise and high sensitivity. In the example below, we obtained a signal intensity of the impurity peak that is about twice that seen with the conventional cell of the previous detector model. The SPD-M30A high-sensitivity photodiode array detector permits high sensitivity detection of extremely trace amounts of impurities.



Column	: Shim-pack XR-ODSII (150 mmL. x 3.0 mmI.D., 2.2 μ m)
Mobile phase	: A) 20 mmol/L (Sodium) Phosphate buffer (pH2.5) B) Acetonitrile
Gradient	: 15 % (0.0 min.) \rightarrow 30 % (4.0 min.) \rightarrow 50 % (9.0 min.)
Flow rate	: 0.9 mL/min
Column temp.	: 40 $^{\circ}$ C
Injection volume	: 2 μ L
Detection	: 245 nm