

Press Release

A-ENG-17010 | **March 8, 2017**

Improved efficiency with reduced cost of acquisition

Unified Chromatography /

New Nexera UC/s enables Liquid and Supercritical Fluid Chromatography with a single System

Shimadzu, one of the world leaders in analytical instrumentation, announces the release of the Nexera UC/s (SFC/UHPLC switching system). The Nexera UC/s allows measurements either by liquid chromatography (LC) or supercritical fluid chromatography (SFC) on a single system. LC and SFC offer very different selectivity for analytes of interest, so an increased range of compounds can be analyzed. Switching between SFC and LC permits rapid screening for optimum separation conditions resulting in improved analytical efficiency. Existing Shimadzu (U)HPLC systems can be upgraded easily to build a Nexera UC/s, offering a full SFC/UHPLC setup while saving acquisition cost as well as lab space.

Liquid chromatographs are widely used in drug discovery, food safety analysis, environmental control and many other application areas. However, separation of components with identical physical and chemical properties, such as optical isomers, is challenging, and method development can take a very long time.

Supercritical fluid chromatography (SFC) using a mobile phase having both liquid- and gas-like properties offers an interesting alternative in selectivity and separation behavior. Especially for separation of chiral compounds, SFC has frequently been shown to be the method of choice. It can also generate up to 5 times the linear velocity of RP-LC, while reducing the amount of organic solvent consumption.

Each technique has its advantages, and superior separation results can quickly be obtained by screening with both SFC and (U)HPLC separation methods, using the same instrument to improve efficiency and increase productivity.

Features

1. **Improved analytical results and efficiency using two different separation modes**

With Nexera UC/s, components that co-elute using LC can easily be re-tested using SFC. A hybrid system enables most efficient method screening using the two orthogonal techniques in one sequence.

2. **Smaller footprint, reduced cost of acquisition**

Since the Nexera UC/s provides two separation modes on a single system, it requires less space than two dedicated systems and also reduces the initial purchase price. A newly-released kit to upgrade an existing Nexera UHPLC system to a Nexera UC/s further decreases the investment cost for the additional SFC system.

3. **Automated workflow to create LC / SFC switching sequence**

Using the dedicated Method Scouting Solution software, screening sequences using (U)HPLC or SFC separation methods are created automatically. The process of switching between SFC and (U)HPLC methodology can be accomplished easily in just a few minutes, providing stable results with excellent reproducibility even when switching between separation modes in one batch.

The Nexera UC, an analytical system using supercritical fluid, was co-developed with Osaka University, Miyazaki Agricultural Research Institute, and Kobe University in a project of the Japan Science and Technology Agency. Since its release in January 2015, it has been recognized worldwide as an innovative system. The Nexera UC is now widely used in government agencies, universities and environmental testing laboratories, in addition to pharmaceutical and food industries.

Web summary

Shimadzu's new Nexera UC/s (SFC/UHPLC switching system) allows measurements by liquid chromatography (LC) and supercritical fluid chromatography (SFC) on a single system. Switching between SFC and LC enables rapid screening for optimum separation conditions resulting in improved analytical efficiency. Through a newly-released upgrade kit, UHPLC units already installed can be upgraded to the Nexera UC/s, thereby decreasing investment cost for the additional SFC system.



Figure 1: The new Nexera UC/s (SFC/UHPLC switching system) offers use of two different separation techniques with a single system and significantly improves analytical efficiency with reduced instrument purchase costs

Web link: www.shimadzu.eu/nexera-uc



For further editorial questions, please contact:

Marketing Communication Europe

Shimadzu Europa GmbH

Albert-Hahn-Str. 6-10

D-47269 Duisburg, Germany

Tel.: +49 (0)203-7687410

E-Mail: shimadzu@shimadzu.eu

Download is possible via:

www.shimadzu.eu/press-information-2017

www.shimadzu.eu