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ASIA EDITION

Waters inks research collaboration with Korean university

09 December 2020 | News

To Advance Precision Analysis of Complex Chemical Compounds

Waters Corporation has formally expanded its long-standing, collaborative relationship with Dr Sunghwan Kim of Kyungpook National University to further explore the use of Waters' cutting-edge ion mobility spectrometry (IMS) in the investigation of compounds in complex mixtures.

“We are thrilled to deliver the first Waters™ SELECT SERIES™ CYCLIC IMS™ in South Korea to Dr Kim’s state-of-the-art laboratory at Kyungpook National University,” said David Curtin, Vice President, APAC, Waters’. “Together we will further explore difficult analytical challenges, such as oil analysis, while leveraging our collective expertise and revolutionary innovation.”

Over the last 10 years, Dr Kim has been working to develop an analytical scheme to identify chemicals in complex mixtures and believes that Waters’ CYCLIC IMS System can make a major contribution to resolve this difficult analytical problem.

“The CYCLIC IMS is an innovative instrument by which researchers can use their imagination to design and perform novel experiments that has not been possible with other existing instruments,” said Dr Kim. “The novel information from this innovative instrument can provide a key to complete the buildout of our analytical scheme.”

Recently, Dr Kim published a paper with Waters researchers on utilising CYCLIC IMS to tackle both the complexity and isomer problems of crude oil characterisation. In this study many of the chemical components differed by less than 0.1Da, and CYCLIC Ion Mobility allowed the detection and separation of these, as well as clean MSMS spectra for the individual components.

“The data obtained from utilising Waters’ CYCLIC IMS clearly demonstrates that the novel CYCLIC ion mobility-mass spectrometer is a powerful instrument that can provide never-before-seen tandem mass spectra of individual compounds in crude oil,” said Dr Kim. “Furthermore, it has the potential to reduce the need for long LC or GC separations prior to MS analysis, reducing overall analysis time and increasing throughput.”

In addition, as part of their collaboration, Dr Kim and Waters will also work to characterise complex advanced materials used in high technology products, such as those found in electronics.