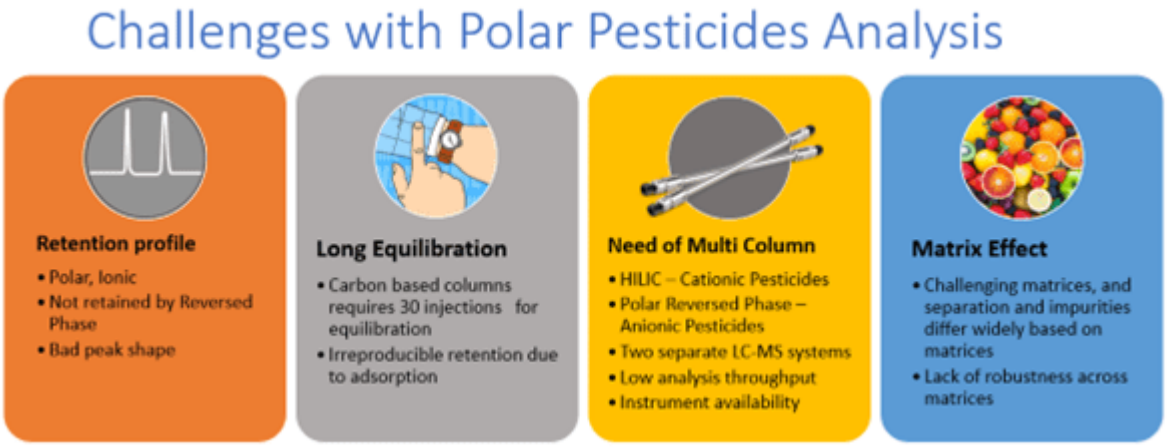
The analysis of polar pesticides in food is an essential aspect of food safety and quality control. Anionic and cationic polar pesticides are water-soluble and are particularly challenging to analyze due to their physicochemical properties. In addition, food samples often contain complex matrices that can interfere with the analytes of interest. Sample preparation and column selectivity play a critical role in providing chromatographic resolution of critical pairs for quality analysis and data accuracy.



Traditionally, multiple columns are utilized for analyzing different class of polar pesticides, which results in dedicating two instruments, two different HPLC column selectivities, reducing lab throughput. In addition, porous carbon-based analytical columns, could require as much as 30 spinach extract injections for equilibration as per Qppe, adding complexity and making the process time-consuming.

Phenomenex has introduced Luna Polar Pesticides, a unique selectivity that provides optimal separation of various anionic and cationic polar pesticide classes using a single HPLC column. The column effectively retains both anionic and cationic pesticides, showing that the same column can be used for both positive and negative polarity modes for analysis. The versatile selectivity of this column enables Reversed Phase and HILIC retention of anionic and cationic

pesticides as evident from Figure 1 and Figure 2, respectively.

Figure 1. Underivatized Anionic Pesticide Analysis on a Luna Polar Pesticides HPLC Column.

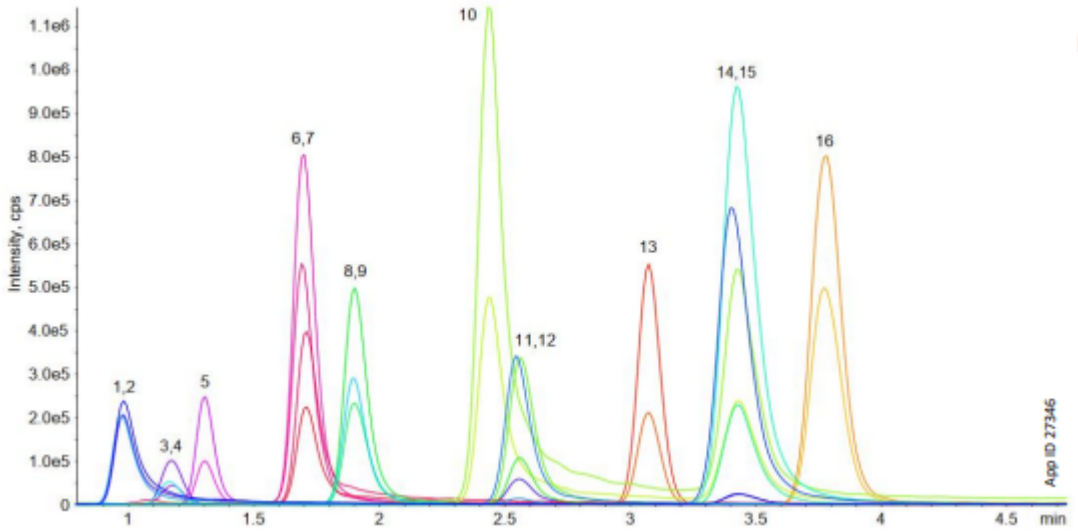
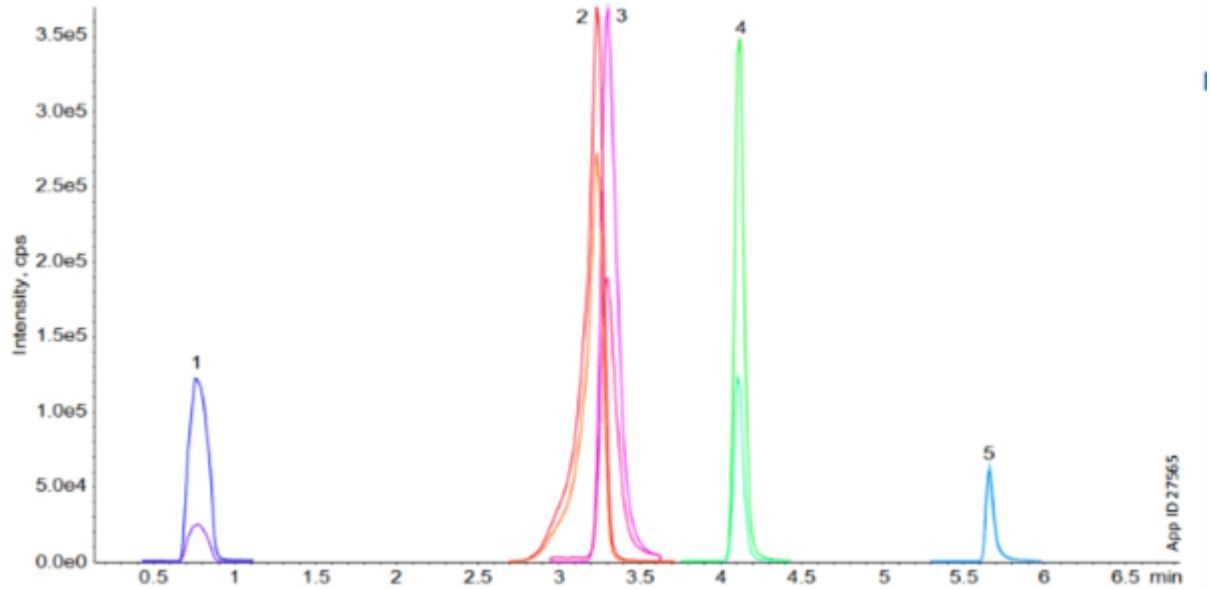


Figure 2. Underivatized Cationic Pesticide Analysis on a Luna™ Polar Pesticides HPLC Column.



Download Technical Note to get full details of this study.

For more information visit www.phenomenex.com/LunaPolarPesticides, and check out our blog post about Luna Polar.

Questions about Luna Polar, or about polar pesticides in your food analysis? Reach out to our Technical Experts through our Chat!

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