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# Separation Techniques

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## HPLC – High Performance Liquid Chromatography

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Liquid chromatography was defined in the early 1900s by the work of the Russian botanist, Mikhail S. Tswett. His pioneering studies focused on separating compounds [leaf pigments], extracted from plants using a solvent, and in a column packed with particles. Tswett coined the name chromatography [from the Greek words chroma, meaning color, and graph, meaning writing—literally, color writing] to describe his colorful experiment. [Curiously, the Russian name Tswett means color]. Today, liquid chromatography, in its various forms, has become one of the most powerful tools in analytical chemistry. HPLC is the most used analytical testing methods for pharmaceuticals and is also used in production to produce ultra-pure pharmaceuticals. For example Insulin, the last purification step is done with preparative HPLC (industrial scale chromatography), at most manufacturing processes. Stationary phases are different due to the different surface chemistry used to do the bonding. High pure Silanes are used to give each packing material its unique performance.

### Biography

Gerhard Kratz has completed his studies at University of Applied Sciences in Berlin. His dissertation was about Planning, calculation and construction of a Fluidized bed reactor. Deepening during his studies was Water economy, chemical technology, plastic technology, varnish and paints, oil processing. First positions in industry were in pharmaceutical industry doing HPLC method development on various HPLC brands. Specialized in HPLC column selection and teaching customers in troubleshooting all over the world, he is supporting several internet forums for HPLC questions.

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