

CPC Purification Technology

Isolate Ultra-Pure Compounds

POS Pilot Plant has an exciting new technology to offer our clients. Now, ultra-pure compounds can be isolated from compounds using our leading edge Centrifugal Partition Chromatography (CPC) unit.

CPC technology is a new purification technique that allows researchers to develop innovative new compounds. It can create and custom manufacture purified materials that cannot be produced practically with other methods. As well, it achieves higher levels of purification than previously possible. The results are innovative products for targeted markets, along with accelerated market entry.

CPC technology has applications in a number of industries including:

- *Pharmaceutical*
- *Fine Chemical*
- *Nutraceutical*
- *Bio-medical*
- *Biotechnology*
- *Fats & Oils*

The Basis of CPC Technology

When a compound is dissolved in a mixture of two immiscible liquids, the component will concentrate more in one of the liquids. The compact CPC unit uses over one thousand extraction cells in a high speed spinning disk pack to separate and purify the desired component. Each cell increases the purity of the desired component until a high purity product is created.

Technological Advantages

Since the CPC method differs so dramatically from competing technologies, it creates a whole new range of opportunities. CPC technology offers the following technological advantages over existing methods:

- *Versatile products*
- *Faster, less expensive product development*
- *Retention of bioactivity integrity*
- *Higher throughput*
- *Higher yields*
- *Reduced operating costs*



The Sanki Laboratories LL1-5 CPC Unit installed at POS Pilot Plant.

Unique Contract Service

POS is pleased to be the only organization offering this leading edge technology on a contract basis in North America. POS, with its long history of successful new product development, provides confidential, professional service. Using POS as your contract research partner allows faster market entry and superior product and process development without the time delays or costs of capital or human investment. With both lab scale and pilot scale CPC units available, POS is able to develop pragmatic processing methods and produce useful quantities for clinical trials or market development.

The new CPC technology at POS is backed by POS's full array of support services. Full analysis of products and residues is available in-house to speed product development. In addition, POS's outstanding pilot plant capability is available for pre-purification steps as appropriate.

The following are two examples of Purification by CPC Technology:

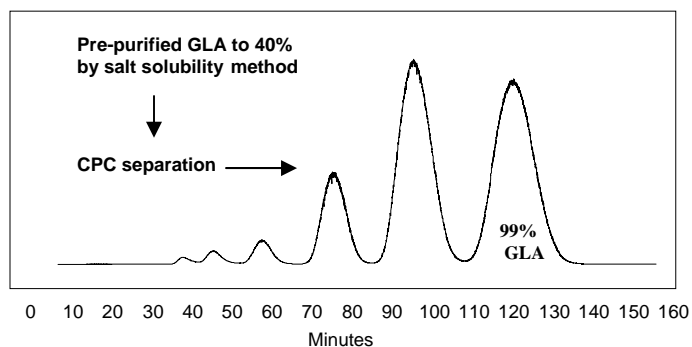


Figure 1. Purification of γ -linolenic acid (GLA) from borage oil by CPC technology

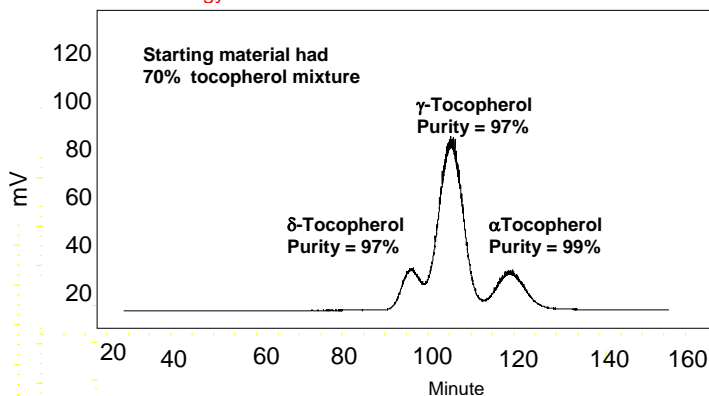


Figure 2. Separation of Natural Tocopherols by CPC technology

Other compounds that can be produced at high purities using the CPC technology include:

Pharmaceutical Drugs	Alkaloids
Chlorophylls	Tannins
Carotenoids	Phospholipids
Fat Soluble Vitamins	Oligosaccharides
Anthocyanins	Lignans
Phytochemicals	Monosaccharides
Phenolic Compounds	Saponins
Fatty Acids	Tocopherol Isomers

. . . and other active compounds from natural products.

Equipment Specifications

The two CPC units at POS are manufactured by Sanki Engineering Ltd. The laboratory scale unit (LLB) has a 1.5 L volume with throughput of 100 mg - 5 grams/injection. The pilot and process scale unit (LL1-5) has a 5.4 L volume with a throughput of 5 - 25 grams/injection. Two detectors (ELSD and UV VIS) permit an extremely wide variety of detection options.

Contact POS for a more in-depth discussion of your particular concept. POS will evaluate your objectives to determine if CPC technology is appropriate to your technical and business needs. A customized program suited to your individual requirements will then be designed. Of course, all consultation is completely confidential. **E-mail POS to request a PowerPoint presentation which describes the technology in more detail.**

For more information contact:

POS Pilot Plant Corporation
118 Veterinary Road
Saskatoon, Saskatchewan, Canada
S7N 2R4
Phone: (306) 978-2800
Fax: (306) 975-3766
Toll Free: **1-800-230-2751**
website: www.pos.ca
E-mail: pos@pos.ca