

FAST CENTRIFUGAL PARTITION CHROMATOGRAPH[®]

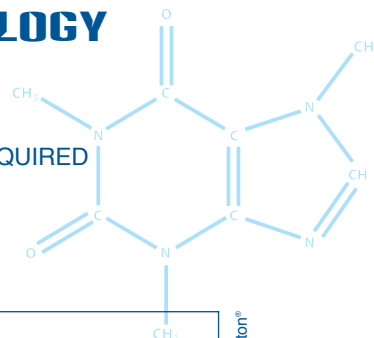


ANALYTICAL FCPC[®] C50

Analytical instrument
for fractionation and purification
of compounds from :

- > **SYNTHETIC CHEMISTRY**
- > **BIOLOGICAL MATRICES**
- > **NATURAL PRODUCTS**
- > **BIOTECHNOLOGY**

NO SOLID SUPPORT
ZERO SAMPLE LOSS
NO EXPENSIVE SILICA REQUIRED
LOW SOLVENT CONSUMPTION
EXTREMELY VERSATILE
AQUEOUS-2-PHASE SYSTEMS AVAILABLE



TECHNICAL SPECIFICATIONS

| | |
|-------------------------|--|
| ROTOR VOLUME | 50 ml |
| INJECTION | Up to 1gr / run |
| FLOW-RATE | Up to 10 ml / min |
| ROTATION SPEED | Up to 2000 rpm |
| MAXIMUM PRESSURE | 900 psi |
| SEPARATION TIME | 10 to 20 min |
| SECURITY | Automatic door lock, explosion proof motor |
| ADDITIONALS | 4 ways switch valve for normal and reversed elution Cooling system by air |

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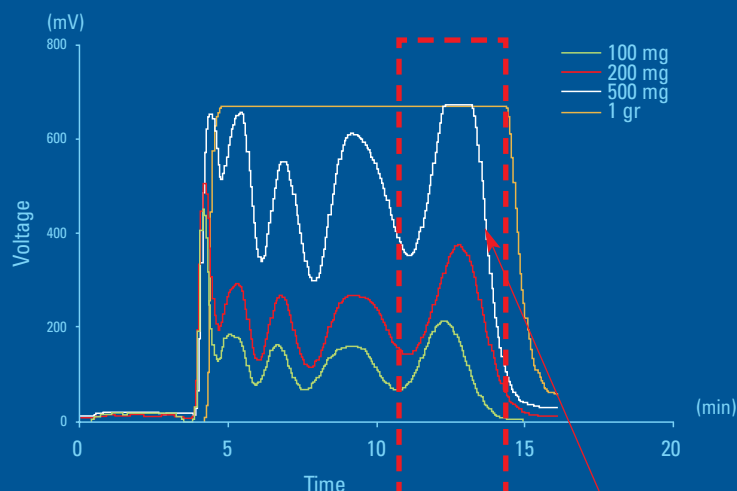
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APPLICATION

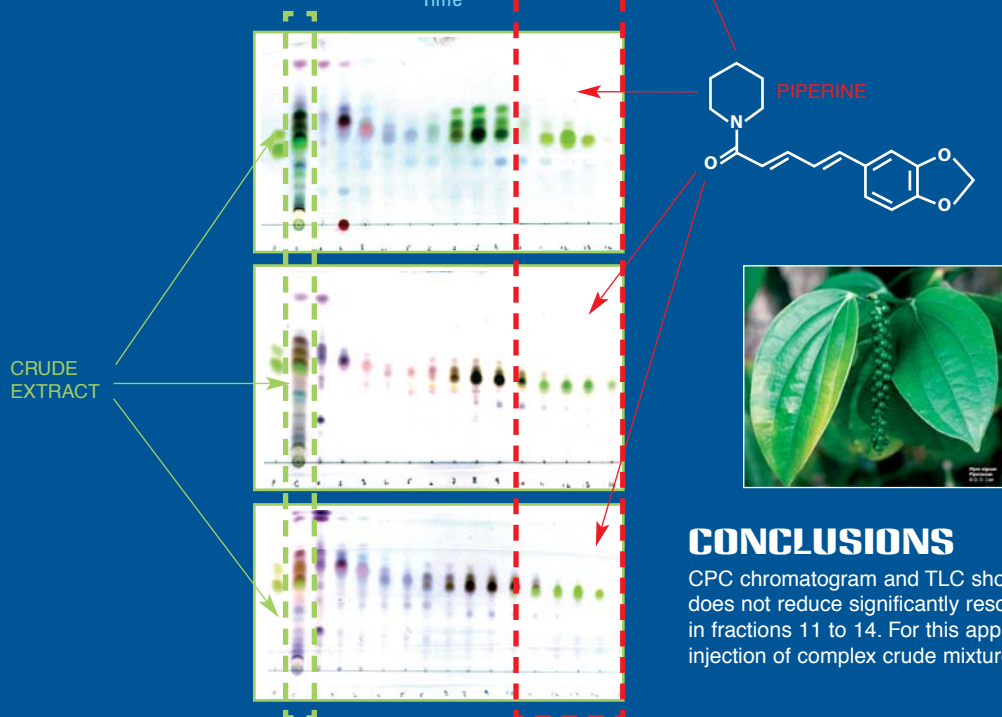
Injection capacity test on Analytical **FCPC**® with 50 ml column for piperine purification from black pepper extract

Source : Kromaton R&D Laboratory



INTRODUCTION

Black pepper (*Piper nigrum*) is a flowering vine from the Piperacea family. Its fruits are usually dried and used as spice and seasoning. Piperine is the alkaloid responsible for the taste and the smell of black pepper. It has also been used in some forms of traditional medicine and as an insecticide. Four trials were done on Analytical **FCPC**® equipped with 50 ml column to follow resolution of the separation between 100, 250, 500 and 1000 mg injection of crude *Piper nigrum* extract. Detection was done with UV/V is detector at 254 nm and TLC analysis of the fractions on silica gel 60 with fluorescent indicator UV 254 nm and vanillin sulphuric.



CONCLUSIONS

CPC chromatogram and TLC show that an increase of the injected mass does not reduce significantly resolution, but increases concentration of piperine in fractions 11 to 14. For this application, Analytical **FCPC**® allows up to 1 gr injection of complex crude mixture with good resolution in 15 min.

| PARAMETERS | |
|-------------------|---|
| FLOW-RATE | 8 ml / min |
| ROTATION SPEED | 2000 rpm |
| QUANTITY INJECTED | 100, 250, 500 and 1000 mg (in 1, 2, 3 and 4 ml) |

| RESULTS | |
|---------------------|--------|
| SEPARATION TIME | 15 min |
| SOLVENT CONSUMPTION | 170 ml |



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