ANALYTICAL SOLUTIONS AUSTRALIA

SUPERCRITICAL FLUID EXTRACTION

POST-PROCESSING

Post-processing of the CO_2 extract can be used to further purify and isolate the compound mixture. Which technique is selected depends on the purity required and the compound of interest.

POST-PROCESSING: CRUDE EXTRACT

	Advantages	Disadvantages
Distillation	*Used to separate liquids by utilising the difference in boiling points between components.* *Can be used on low purity material.*	*Can degrade thermally sensitive compounds.* *High energy costs.* *Needs sufficient boiling point difference to perform separation.*
Crystallisation/ Winterization	*This technique depends on different melting points of the compounds. By depressing the temperature to sub zero levels, the various components precipitate out of the crude extract.* *A vacuum atmosphere assists in the crystal formation.*	*Generally requires purities exceeding 75%.* *The compound must have a crystalline property when in solid form.* *Requires expensive organic solvents.*
Chromatography	*Takes advantage of the interaction between a selective stationary stage (packed column) and an eluting mobile phase containing the crude extract components.* *The extract components are held on the column for different times allowing fractions to be captured in different vessels based on time.*	*Expensive to set up,* *Requires material to be reasonably pure otherwise separations can be complex.*