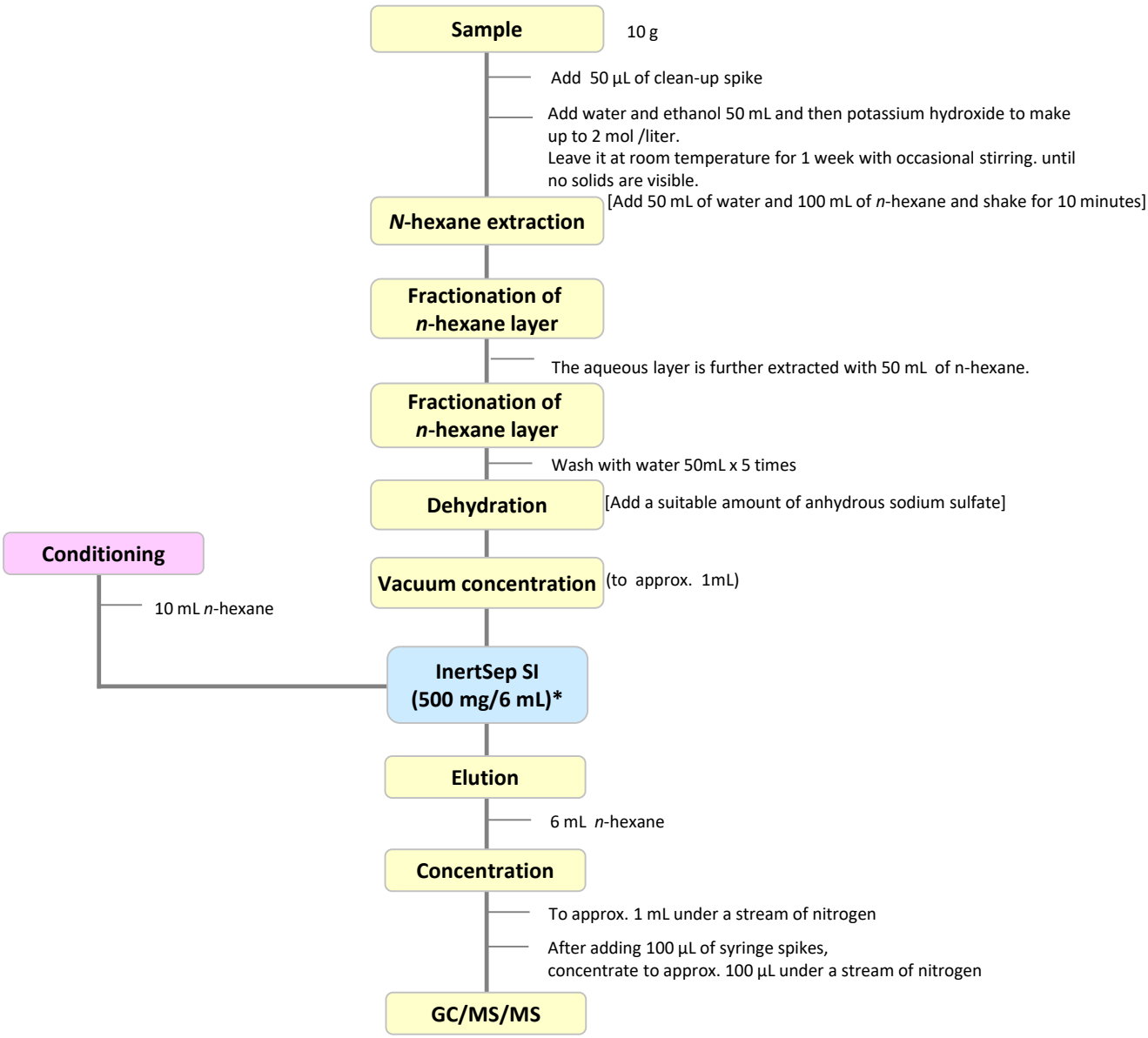
ST003
GL Sciences Inc.

Analyses of Polychlorinated Biphenyls (PCBs) in Fish

A common method for analyzing polychlorinated biphenyls (PCBs) in foods, uses alkaline saponification, *n*-hexane extraction, column chromatography purification, and GC/MS measurement. It has been reported that this method is complicated, uses a large amount of organic solvents, and is susceptible to contaminants. The application described here introduces an analytical method used for analysis of PCBs in five fish samples distributed (1 great amberjack sample, 3 sea bream samples, and 1 flounder sample) which were purified using a commercial silica gel minicolumn, followed by analysis with GC/MS/MS. The use of GC/MS/MS greatly reduces the impact of contaminants.

1. Flow diagram of solid phase pretreatment

[Examples of pretreatment of PCBs in fish]



*:For residual pesticide analysis and PCBs analysis in environmental water when contaminants are found use InertSep SlimJ PSA (500 mg as a clean-up column.
It is effective for removing contaminants such as lipids when used with linking.

NOTE)This is a method developed by Energy Science based on literature information.

Reference: Fukuoka City Health and Environmental Research Report No. 33 (2007), pp. 91-94.

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2. Products for solid-phase extraction

[InertSep SI]

Si-OH

InertSep SI has strong polar interaction with silanol groups and is suitable for selective separations of compounds with similar structures using low-polarity solvents. This is a solid phase with the highest affinity for polar compounds.

Mean particle size	:	60 µm
End-caps	:	None
Surface Area	:	450 m^2/g
Pore volume	:	0.7 mL/g
Pore size	:	60 Å
pH range of use	:	2 - 8

Syringe barrel type cartridge

Product name	Column size	Qty.	Cat.No.
InertSep SI (Recommendation for this study)	500 mg / 3 mL	50 bottles	5010-61343
	500 mg / 6 mL	30 bottles	5010-61344
	1 g / 6 mL	30 bottles	5010-61345
	2 g / 12 mL	20 bottles	5010-61346

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