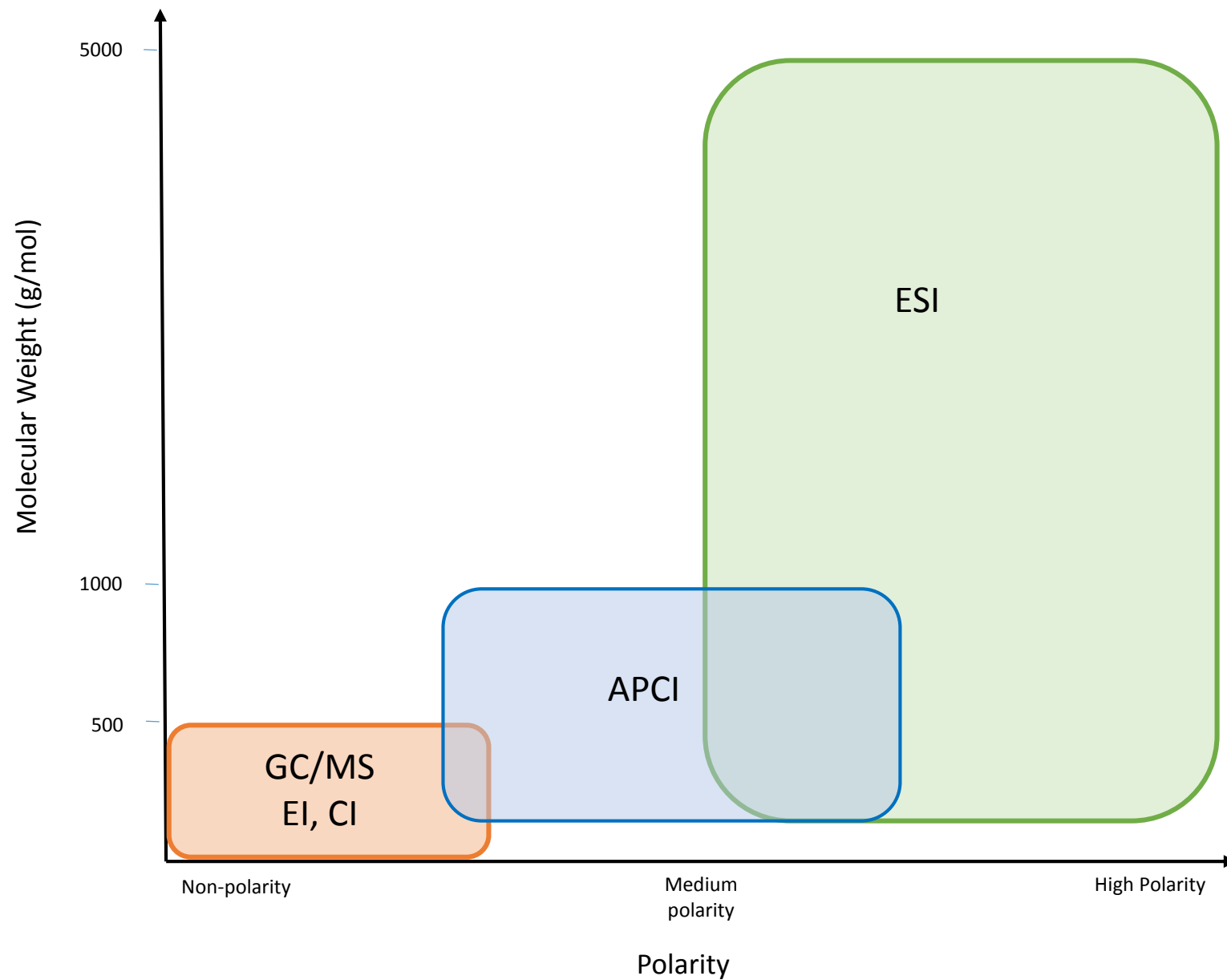



Ionization methods and applicable compounds



Which analyse for your sample ?

Sample type	Molecular weight (g/mol)	Introduction mode	Ionization mode	Quantity	Expected results	Resolution	 Precautions
Thermally stable Non-polar (hydrocarbures, esters, ...)	MW < 500	GC : Gas Chromatography <i>Provide chromatogramme</i>	EI: Electron impact ionization	5 mg	-Fragmentation -Molecular pic possible M ⁺ .	Low	<ul style="list-style-type: none"> - No H₂O - No molecules > 500 g/mol - No complexes - Samples will be filtered if in solution
			CI : Chimical ionization (NH ₃)		-Few fragmentation -Pseudo-molecular pic : MH ⁺ and/or MNH ₄ ⁺		
Non-polar (sugars, amines, ...)	150 < MW < 5000	Direct introduction	ESI : Electrospray ionization -T _{source} ^o : 180 °C -Analyses : + (amines) and - (acids, alcohol)	1 mg	-No (or few) fragmentation - Ion mono- and multicharged products : In + : MH ⁺ and/or MNa ⁺ (MK ⁺), (M+2H) ²⁺ , (M+2Na) ²⁺ ... In - : MH ⁻	High	<ul style="list-style-type: none"> - No DMSO and DMF - No tampon (TFA...) - No salt - Samples will be filtered if in solution
		LC : Liquid Chromatography					
Moderately polar	150 < MW < 1000	Direct introduction	APCI : Atmospheric Pressure Chimical Ionization -T _{source} ^o : 400 °C -Analyses : + and -	1 mg	-No (or few) fragmentation -Ion monocharged products : MH ⁺ or MH ⁻	High	<ul style="list-style-type: none"> - No DMSO and DMF - No tampon (TFA...) - No salt - Samples will be filtered if in solution
		LC : Liquid Chromatography					

Operating procedure: ESI

- ✓ Provide 1 mg of sample in 2 mL vial and write the name on
- ✓ The sample is dissolved into the solvent you indicate ($C = 1 \text{ mg/mL}$). Don't use DMSO and DMF
- ✓ 10 μL of this solution are diluted in 1 mL of MeOH ($C = 10 \text{ }\mu\text{g/mL}$)
- ✓ Injection of 5 μL driven by a mix of H_2O :MeOH (50:50)

Operating procedure : CI/EI

- ✓ Provide 5 mg of sample in 2 mL vial and write the name on
 - ✓ The sample is dissolved into the solvent you indicate ($C = 5 \text{ mg/mL}$). Don't use H_2O , DMSO and DMF
- GC : Give us a chromatogramme. Injection of 1 μL in GC