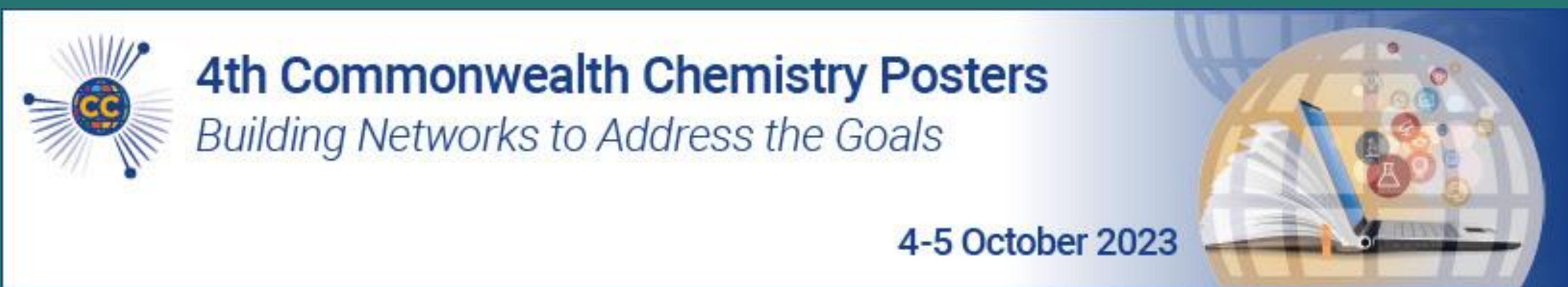


The Effects of Drying Techniques on *In-Vitro* Phytochemical Content and Bioactivities of *Salicornia brachiata*



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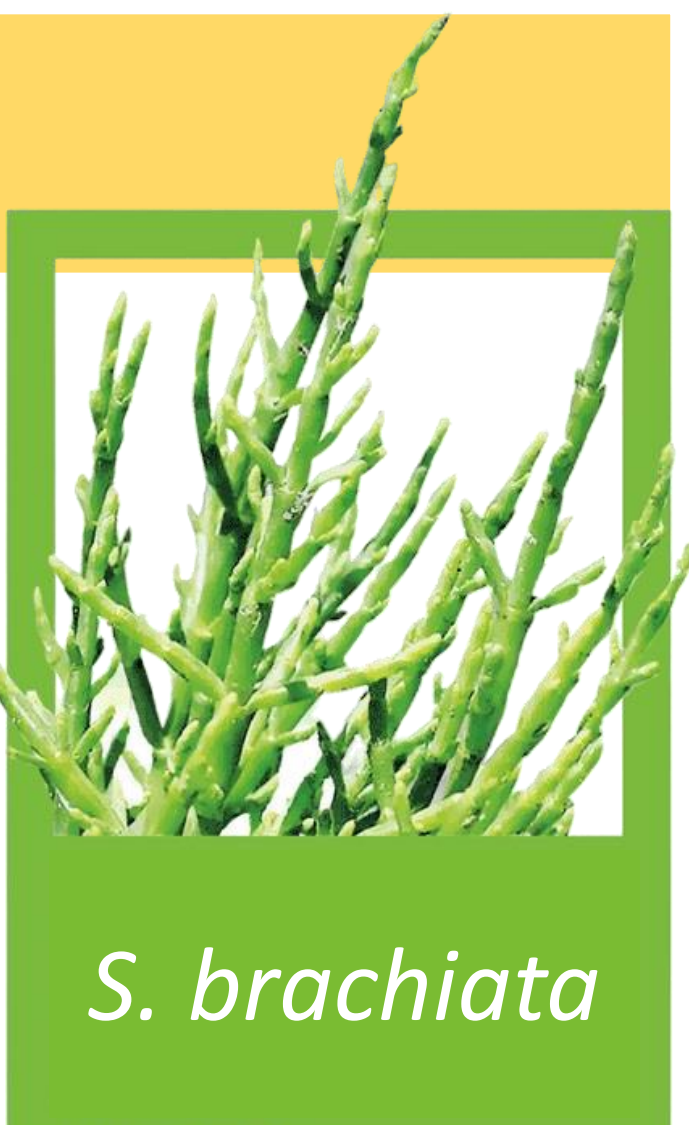
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Background

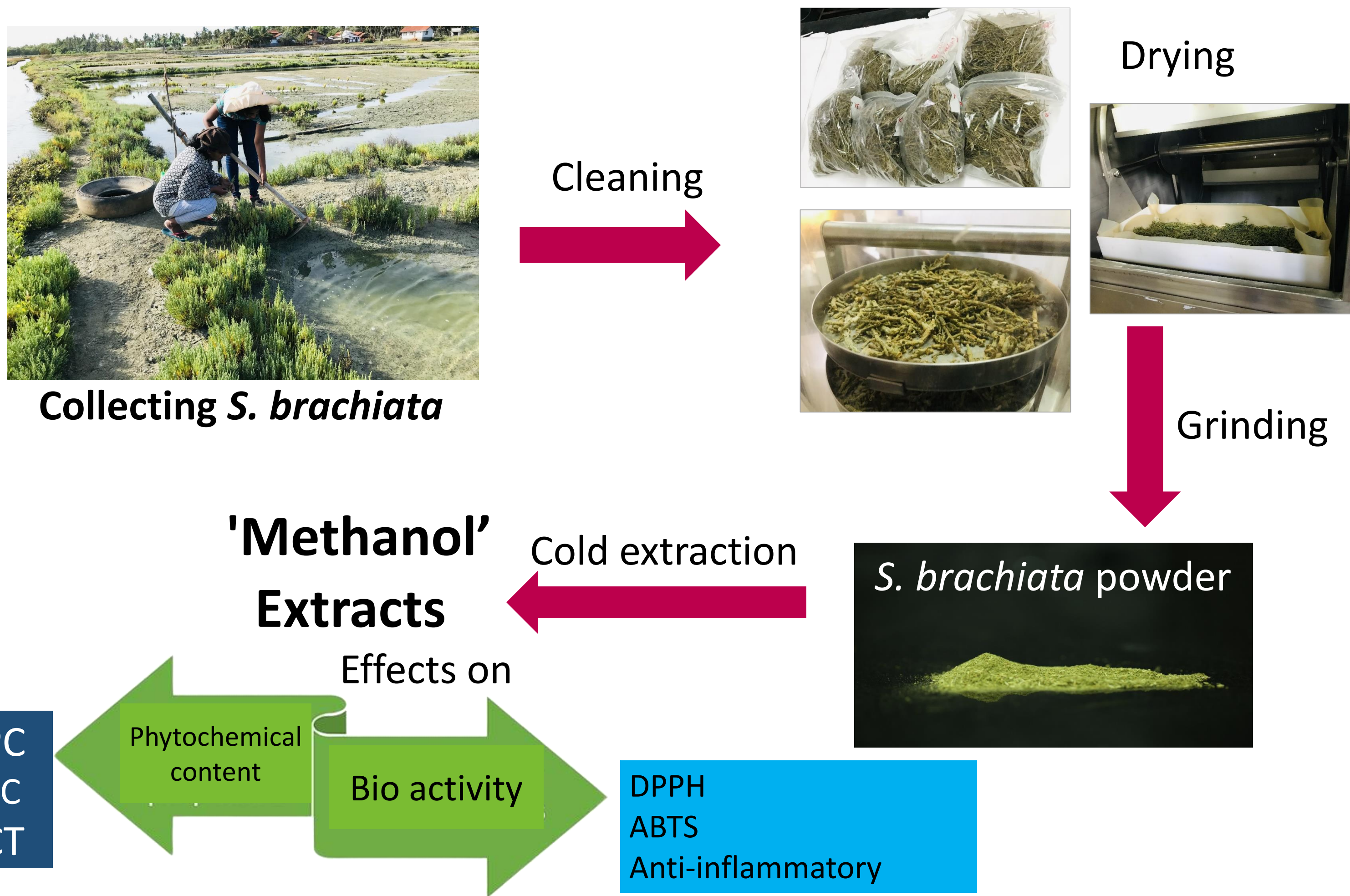
- Salicornia brachiata* is a halophyte¹
- Holds great potential applications in food, nutraceuticals, and pharmaceuticals due to its promising properties¹
- To reap the benefits of the plant, downstream processing is essential^{2,3}
- In this study, drying processes were evaluated, impacting the functional value



S. brachiata

AIM: To investigate how different drying methods affect the phytochemical content and bioactivity of *S. brachiata* using various bioassays

Methodology



Results

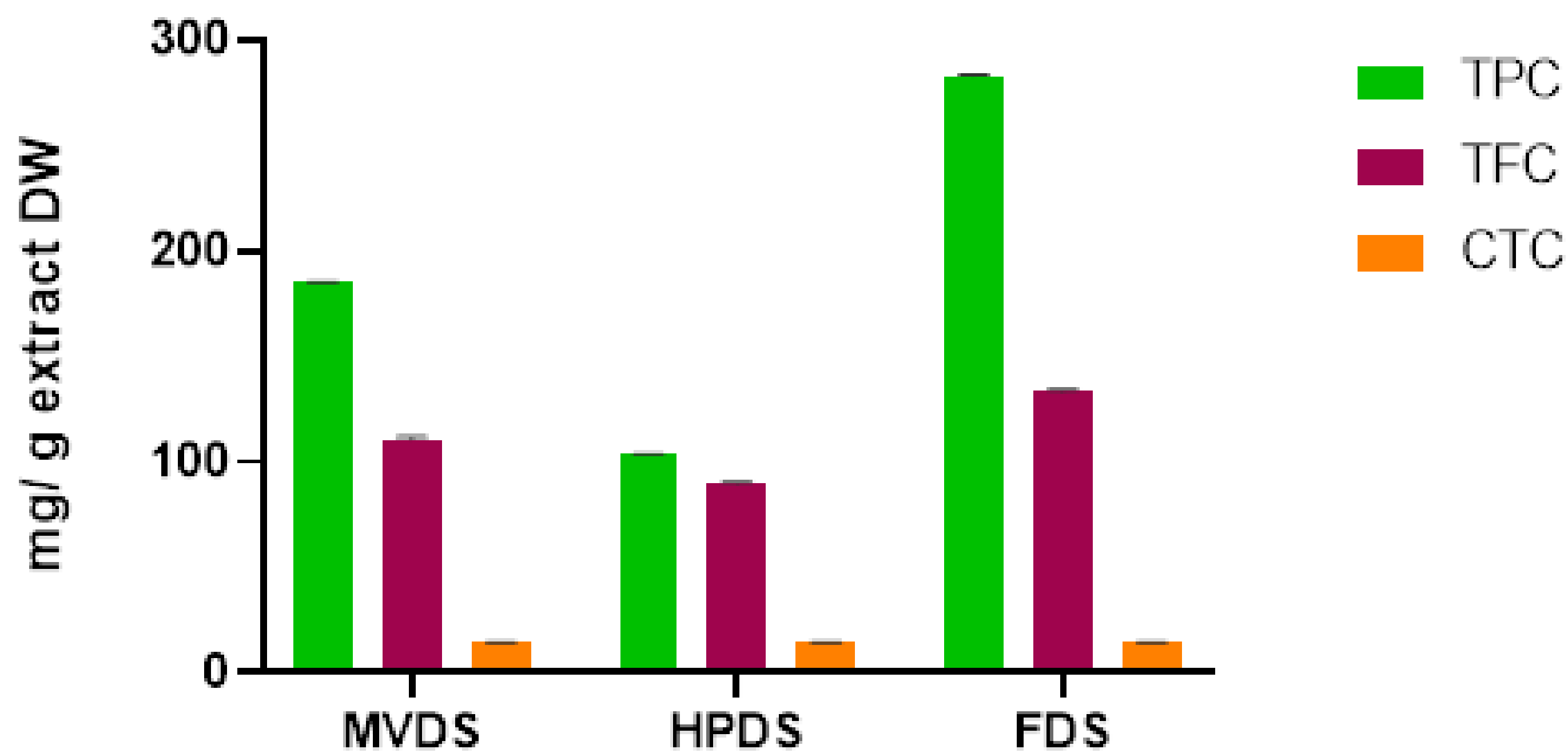


Figure 1: Polyphenolic contents (mg/g extract DW) in Microwave Vacuum Dried *Salicornia* (MVDS), Heat Pump Oven Dried *Salicornia* (HPDS) and Freeze Dried *Salicornia* (FDS): Total phenolic content (TPC, mg GAE/g DW), Total flavonoid content (TFC, mg CE/g DW), and Condensed tannin content (CTC, mg CE/g DW).

Table 1. Anti-oxidant activity Anti-inflammatory of Microwave Vacuum Dried *Salicornia*, Freeze Dried *Salicornia* and Heat Pump Oven Dried *Salicornia*

Extract	Anti-oxidant Activity		Anti-inflammatory (µg/mL) IC ₅₀
	DPPH• (µg/mL) IC ₅₀	ABTS•+ (µg/mL) IC ₅₀	
Microwave Vacuum Dried <i>Salicornia</i>	36.33±1.14	45.52±0.40	522.05±0.47
Heat Pump Oven Dried <i>Salicornia</i>	42.41±0.56	54.05±0.40	683.92±0.53
Freeze Dried <i>Salicornia</i>	24.85±0.59	37.50±0.49	313.93±0.70
BHT *	16.31±0.49	23.60±0.73	
Aspirin**			47.69±8.30



Figure 2: Powders of different drying methods

Conclusion

- Freeze drying followed by microwave vacuum drying is good in preserving phytochemical content and bioactivity, highlighting the significance of selecting the right drying method for maximizing its benefits



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