0.70 mg/mL) and also in scavenging hydrogen peroxide ($IC_{50}$< 0.20 mg/mL). The antioxidative properties exhibited significant correlation with antidiabetic, anti-inflammatory and antihypertensive activities ($r^2$>0.8) of the crude extracts derived from these species, which implied that the free-radical species are responsible for combating the pathologies of these prominent lifestyle diseases. The crude extracts from *G. salicornia* and *P. tetrastromatica* displayed significantly greater α-amylase inhibitory activity ($IC_{50}$~0.50 mg/mL) along with anti-cyclooxygenase/lipoxygenase ($IC_{50}$ anti-COX-2 and anti-LOX-5~1 mg/mL) and angiotensin converting inhibitory enzyme ($IC_{50}$< 0.15 mg/mL) inhibitory potential. These results demonstrated that the seaweeds *G. salicornia* and *P. tetrastromatica* might be promising candidates to isolate high value compounds for pharmacological use.

**FF PO 13**

## Green chemistry approach for screening of bioactive compounds from brown seaweeds by supercritical fluid extraction (SFE)

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Brown seaweeds hold immense interest in the development of drugs and dietary supplements since they possess rich constitution of bioactive compounds. The extraction using conventional solvents cause bioaccumulation and the consequent waste management concern results in huge environmental destruction as well. The innovative green chemistry approach must be a great move towards efficient extraction of bioactive compounds and through which environmental safety is ensured too. In the study, the extraction efficiency of supercritical carbon dioxide (SC-$CO_2$) at different pressures, duration and quantity of ethanol as modifier solvent has been presented. Health significant carotenoid fucoxanthin and different bioactive lipids in the brown seaweed species *Sargassum wightii* were of interest. A range of 4.56±0.12 to 19.09±0.43 mg/g extract fucoxanthin was obtained through SFE, which is a higher than that obtained through the conventional solvent extraction processes. Most of the fatty acids C14, C16, polyunsaturated fatty acids such as omega 3 ($C_{20:5}$, $C_{22:6}$), omega 6 ($C_{18:2}$, $C_{20:4}$) and omega 9 ($C_{18:1}$) were present in high amounts in all the fractions. A unique observation was that fatty acids such as Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) were in considerable amount in some of the extracts (Range: EPA [2.88±0.12 to 16.08±1.84] and DHA [1.44±0.02 to 2±0.08]). Thus it is clear that SFE can be suggested as an effective alternative of the use of hazardous solvents for the screening of bioactive compounds from nutrient rich brown seaweeds.

**FF PO 14**

## Dietary supplementation of fish collagen peptides (FCP) ameliorates high fat-alcohol induced hyperlipidemia in experimental rats

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