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(54) **METHODS FOR PRODUCING BIOEFFECTIVE KRILL OIL COMPOSITIONS**

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(57) **ABSTRACT**

New krill oil compositions are disclosed as having high amounts of phospholipids, astaxanthin esters and/or omega-3 contents. The krill oils are obtained from krill meal using supercritical fluid extraction in a two stage process. Stage 1 removes the neutral lipid by extracting with neat supercritical CO<sub>2</sub> or CO<sub>2</sub> plus approximately 5% of a co-solvent. Stage 2 extracts the actual krill oils by using supercritical CO<sub>2</sub> in combination with approximately 20% ethanol. The krill oil materials obtained are compared with commercially available krill oil and found to be more bioeffective in a number of areas such as anti-inflammation, anti-oxidant effects, improving insulin resistances and improving blood lipid profile.

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