

PATENT ABSTRACTS OF JAPAN

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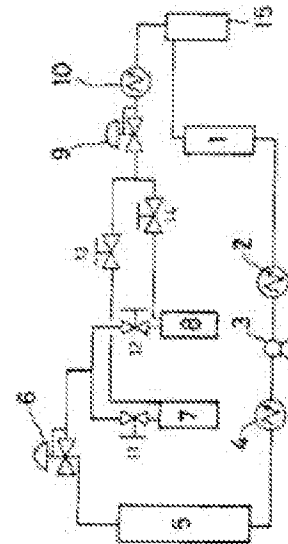
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(54) METHOD FOR EXTRACTING AND SEPARATING COLORING MATTER FROM KRILL

(57)Abstract:

PURPOSE: To prepare a reddish orange coloring matter having a high safety in a high concn. by extracting, with CO₂ in a supercritical state, krill shells of which the protein has been decomposed by a protease.

CONSTITUTION: Krill shells are treated with a protease to decompose the protein in the shells and the treatment product is filtered. The residue of filtration is dried to give treated shells having a water content of 6-8% and a mean particle size of 200 μ m or lower. The treated shells are put into an extraction vessel 5. An extractant comprising a liq. CO₂ in an amt. of 30-40 pts.wt. based on one pt.wt. treated shells having a coloring matter concn. of 30 mg/100 g is supplied through a supercooling apparatus 2 to a pump 3, pressurized at the pump 3 to 100-250 kg/cm², heated with a heat exchanger 4 to 35-40°C to bring it into a supercritical state, and transferred to the extraction vessel 5 to extract an oil in the treated shells. After the pressure of the oil-contg. CO₂ in the supercritical state is reduced to 40-60



kg/cm² with a pressure reducing valve 6, the CO₂ is delivered through a selector valve 11 to the first separating vessel 7 to separate the oil, and recycled through a selector valve 13, a pressure reducing valve 9, a condense 10, a water separator 15, and a storage vessel 1 to the extraction vessel 5. Then, selector valves 11 and 13 are closed while selector valves 12 and 14 are opened, and the CO₂ contg. the coloring matter is transferred to the second separating vessel 8, where the CO₂ is evaporated to give a coloring matter with a concn. of 2000-10000 mg/100g.