

Lipid Analysis of Greek Walnut Oil (*Juglans regia* L.) §

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The walnut oil (*Juglans regia* L.) total lipids (TL) were extracted by the Bligh-Dyer method and the lipid classes have been isolated by chromatographic techniques and they were analyzed by high performance thin layer chromatography (HPTLC) /FID and GC-MS. The oil was found to be rich in neutral lipids (96.9% of total lipids) and low in polar lipids (3.1% of total lipids). The neutral lipid fraction consisted mainly of triacylglycerides whereas the polar lipids mainly consisted of sphingolipids. GC-MS data showed that the main fatty acid was linoleic acid. Unsaturated fatty acids were found as high as 85%, while the percentage of the saturated fatty acids was found 15%. Two types of liposomes were prepared from the isolated walnut oil phospholipids and characterized as new formulations. These formulations may have future applications for encapsulation and delivery of drugs and cosmetic active ingredients.