

Chemical composition of essential oils of *Croton hirtus* L'Her from Piauí (Brazil).

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Abstract:

The essential oils from the fresh leaves of *Croton hirtus* from two locations, Teresina and Simões in Piauí State, located in northeastern Brazil were obtained by hydrodistillation and analyzed by gas chromatography-flame ionization detection (GC-FID) and gas chromatography-mass spectrometry (GC-MS) techniques and further confirmed by ^1H and ^{13}C NMR. The main compounds found in the oil of the leaves from *C. hirtus* collected at Simões were spathulenol (26.7%), E-caryophyllene (10.0%), bicyclogermacrene (9.5%), α -cadinol (7.7%) and cubenol (7.0%). At Teresina, the harvest was carried out in two different months and in three periods of the day, and E-caryophyllene (27.9-37.3%), germacrene D (6.3-33.7%), α -cadinene (7.0-16.1%), δ -cadinene (1.8-13.5%) and α -humulene (3.6-4.6%) were identified as the major constituents. The brine shrimp (*Artemia salina* Leach) lethality bioassay, carried out to investigate the toxicity of the essential oils, showed 50% lethal concentration (LC_{50}) values of 11.24 and 11.85 ng/ mL for samples from Teresina and Simões, respectively.

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