

Beyond curcumin: bioactive bisaboloids from lipophilic extracts of turmeric

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The beneficial biological properties of turmeric (*Curcuma longa* L.) have traditionally been associated to its orange pigment, the diarylheptanoid curcumin, whose pleiotropic profile of activity has raised considerable interest in the biomedical community.¹ In the wake of the popularity of curcumin, turmeric has reached a super-food status, and its consumption as a food and as a medicine has constantly increased over the past decades. On the other hand, turmeric is a veritable treasure trove of also other phytochemicals, and curcumin-free turmeric extracts have been shown to display significant biologic activity, especially fractions enriched in bisabolane sesquiterpenoids.² Because of the thermally instability of some of these compounds, the composition of the essential oil of turmeric is significantly different from its native bisabolane profile.³ These considerations have provided a rationale for investigating the native bisaboloid profile of commercial turmeric powder and the activity of its constituents. Apart from many known compounds, the novel and structurally unusual abeo-bisaboloid was isolated, and its structure was elucidated using a combination of spectroscopic data and computational methods. The biological profile of the major constituents of the native bisaboloid fraction was investigated in a panel of cellular and biochemical assays related to inflammation, discovering a potent and unexpected activity of the ketone b-turmerone.

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3. Hu Y1, Kong W, Yang X, Xie L, Wen J, Yang M. GC-MS combined with chemometric techniques for the quality control and original discrimination of *Curcuma longae* rhizome: analysis of essential oils. *J Sep Sci*. 2014, ;37,;404-11.