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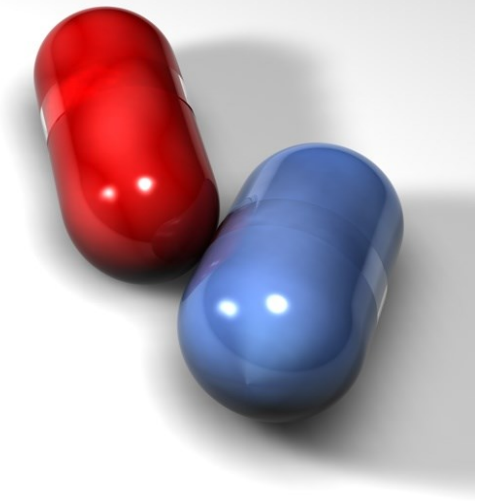

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Letter to the Editor

Isolation of myristyl alcohol from *Hybanthus enneaspermus*

Sir,

Hybanthus enneaspermus (L) F. Muell belonging to the family Violaceae, popularly known as Ratanpurus (Hindi), is a perennial herb distributed in the tropical and subtropical regions of the world. In Ayurveda, the plant is used to cure conditions of "Kapha" and "Pitta", urinary calculi, dysentery, vomiting, urethral discharge, blood disorders, asthma, epilepsy and cough (Patel et al., 2013). The plant has been reported to possess antidiabetic, antiplasmodial, antimicrobial, anticonvulsant, nephroprotective, aphrodisiac, hepatoprotective, anti-inflammatory, aldose reductase inhibitory and anti-oxidant activities (Immanuel and Elizabeth, 2009).

The plant contains a considerable amount of steroids, triterpenes, flavonoids, tannins, anthraquinones, sugars and amino acids. Various phytoconstituents viz. dipeptide alkaloids, aurantiamide acetate, isoarborinol, and β-sitosterol have been isolated (Patel et al., 2013) and also some of the identified compounds are alkyl alcohols, heteroxanthine, theophylline, theobromine, caffeine, tetramethyl trihydroxypurine, agnosterol, lanosterol, dihydrositosterol, cholestanol, cholesterol, dihydroagnosterol, gallic acid, catechin, galangin, kaempferol, thujyl alcohol, menthol, terpinol, sesquiterpene and daucul from *H. enneaspermus* by gas chromatography (Retnam and De Britto, 2003). The aim of the study was to investigate the phytochemicals of the plant *H. enneaspermus*. Myristyl alcohol (1-tetradecanol) was isolated from this plant as a minor phytoconstituents with simple laboratory conditions and it also presents in fewer plants.

The powdered plant material was bought from the supermarket, Vellore. Plant materials were extracted with petroleum ether (60°C) using soxhlet apparatus. Ethyl acetate soluble fraction was removed from the petroleum ether dried extract. The dried petroleum ether extract was washed with methanol and finally was dissolved with the chloroform followed by dichloromethane. Soluble content of both solvents were evaporated, dried and again to that chloroform was added to dissolve. The soluble fraction of chloroform

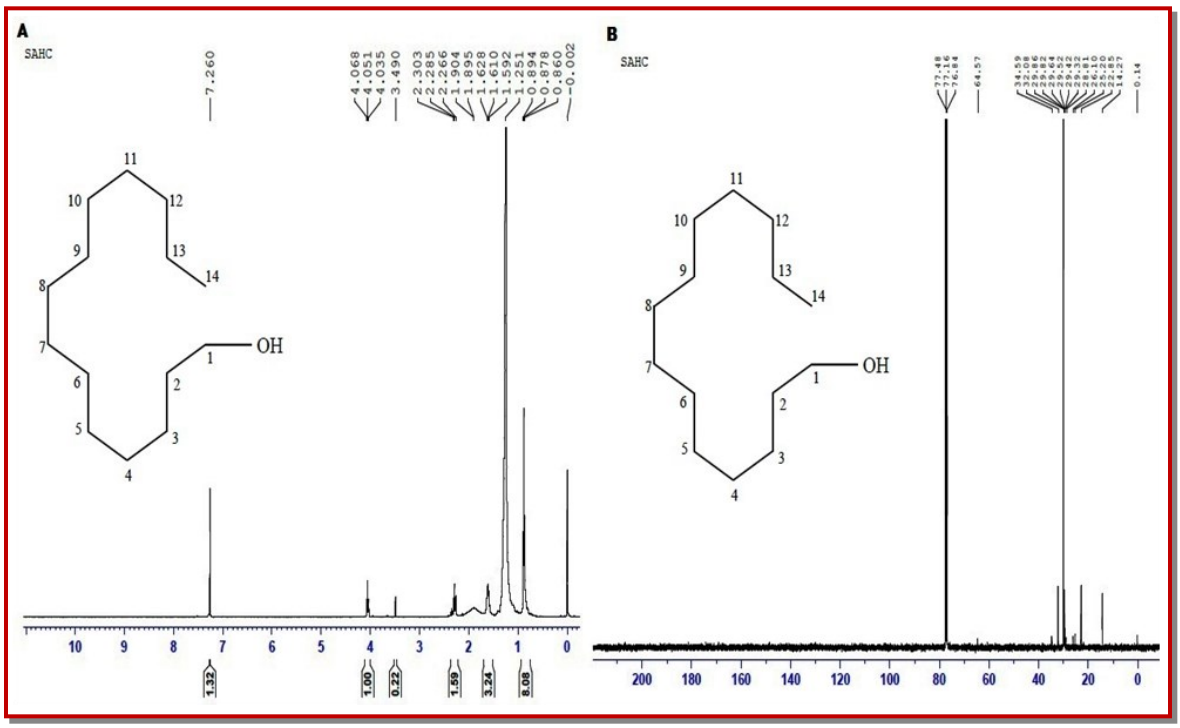

Figure 1: ^{1}H NMR (A) and ^{13}C NMR (B) spectrum of isolated compound (1-tetradecanol) from *H. enneaspermus*

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was completely evaporated and subjected for spectral analysis.

1-Tetradecanol was isolated as white crystalline solid and the molecular formula was proposed as $C_{14}H_{30}O$ based on HR-EIMS showing an ion at m/z 213.4900 (calculated for 214.22980); The FT-IR spectrum of compound reveals a broad peak situated at 3444 cm^{-1} which is assigned to O-H stretching vibration. The peaks at 2954, 2918 and 2848 cm^{-1} are assigned to C-H stretching vibrations of methyl group, respectively to asymmetric and symmetric stretching vibrations of methylene groups. At 1463 cm^{-1} it was identified the C-H scissoring vibration, while at 954 cm^{-1} it was found the C-O stretching vibration. The rocking vibration of methyl group was easily detectable in the spectrum at 729 cm^{-1}. ^{13}C NMR ($CDCl_3$) spectrum revealed the presence of one methyl and 13 methylene groups. δ64.57 (C-1), δ29.86 (C-2), δ22.85 (C-3), δ29.82 (C-4), δ25.20 (C-5), δ29.52 (C-6), δ29.42 (C-7), δ29.32 (C-8), δ29.64 (C-9), δ26.10 (C-10), δ32.08 (C-11), δ28.81 (C-12), δ34.59 (C-13), δ14.27 (C-14); ^1H NMR ($CDCL_3$) spectrum showed a triplet at δ0.86 (J=7.2 Hz), a multiplet at δ 1.25 and δ 4.06 (*J* =6.9, 9.5 Hz) revealing that it was a straight chain fatty alcohol. The FT-IR and NMR data in Figure 1 were identical to the published data of myristyl alcohol (1-tetradecanol) (Naz et al., 2015).

1-Tetradecanol was reported to have benefits on skin whitening, moisturizing, alopecia, and also used as an ingredient in cosmetics such as cold creams, lotions (Lee et al., 2015). It may be a potent candidate used in cosmetic industry. To the best of our knowledge this is the first report on isolation of 1-tetradecanol from *H. enneaspermus*.

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