

Isolation and characterisation of potentially bioactive compounds from *Erythrina caffra*

Simnikiwe Nogqala, Rosalyn Klein and Xavier Siwe-Noundou

Department of Chemistry, Rhodes University, Grahamstown, Makhanda, 6139, South Africa

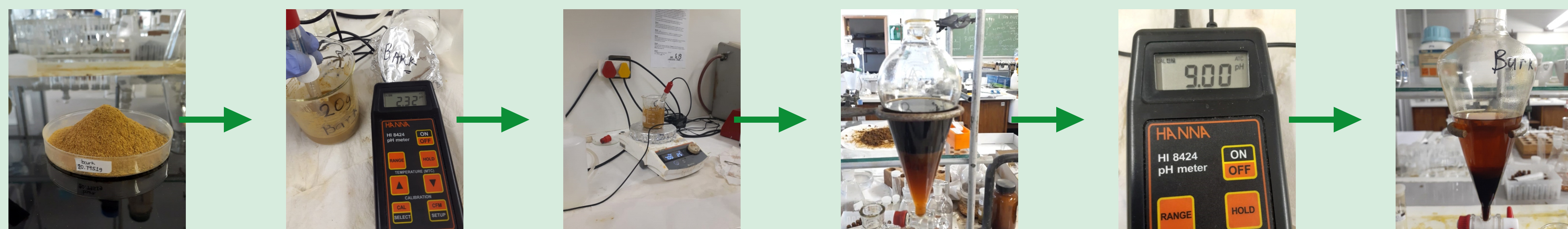
BACKGROUND

Erythrina caffra (Fabaceae) is indigenous to South Africa and it mostly occurs in the warm coastal regions of the Eastern Cape and KwaZulu Natal. The stem bark of the *E. caffra* is traditionally used to treat tuberculosis, respiratory infections, wounds, abscesses, arthritis and

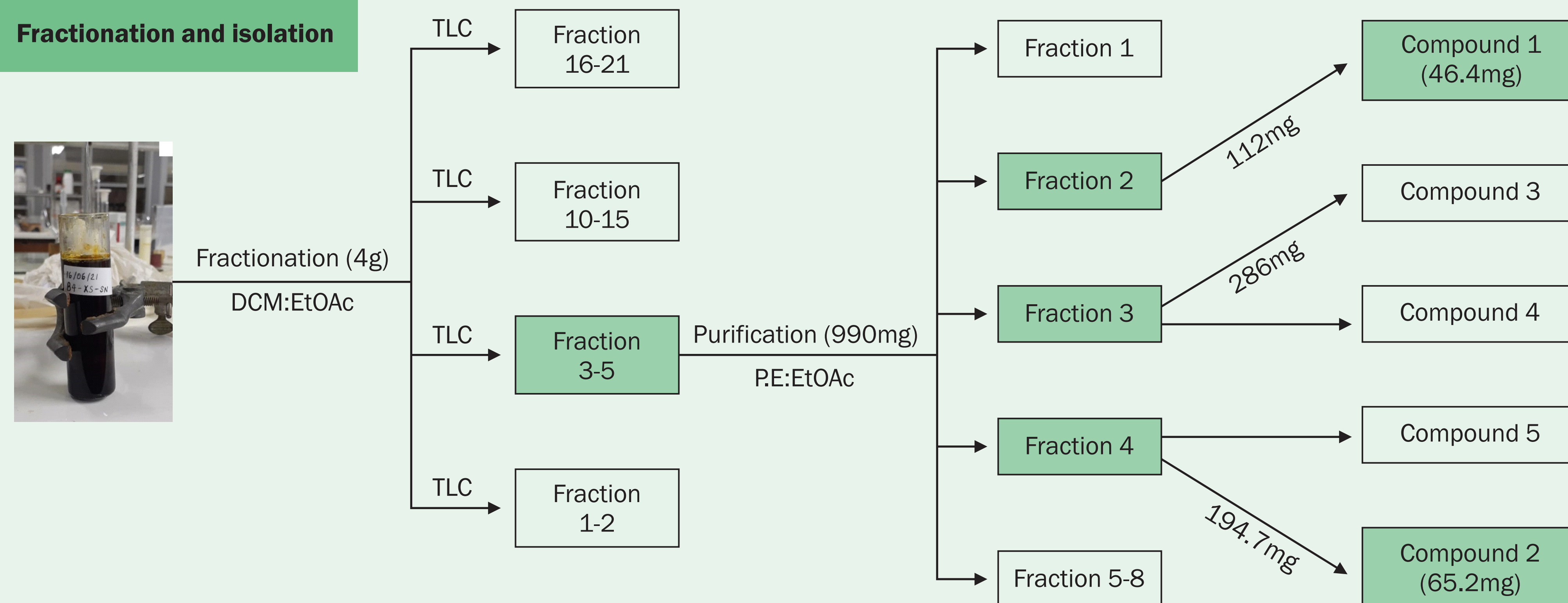
toothache [1]. *Erythrina caffra* is very rich in bioactive compounds, however, it has not been investigated adequately. The study is focused on isolation, characterisation, identification and evaluation of biological activity of pure compounds from *Erythrina caffra* extracts.

MATERIALS AND METHODS

Extraction method



Fractionation and isolation

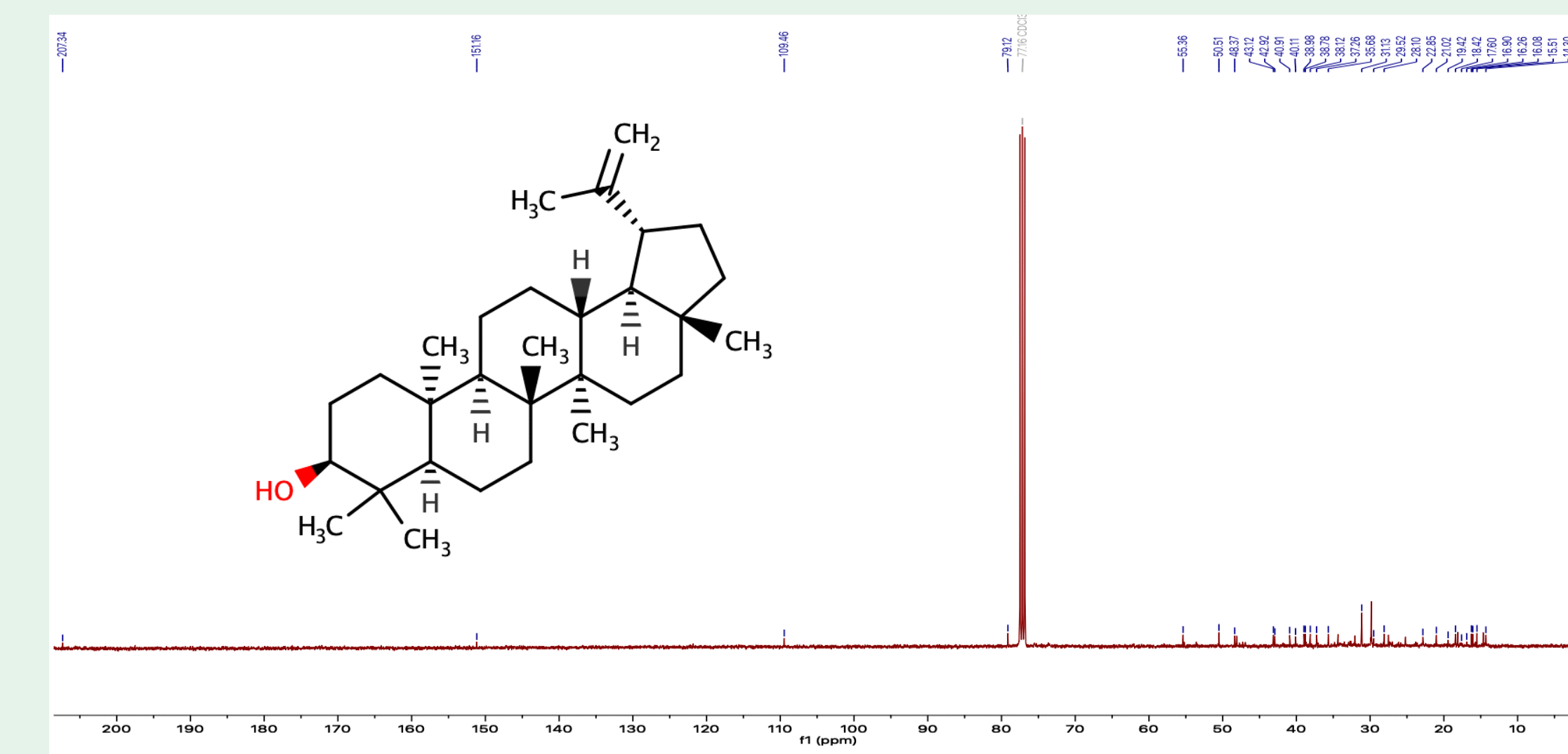


TLC plate of Fraction 2 and 3 (DCM:EtOAc)

RESULTS AND DISCUSSION

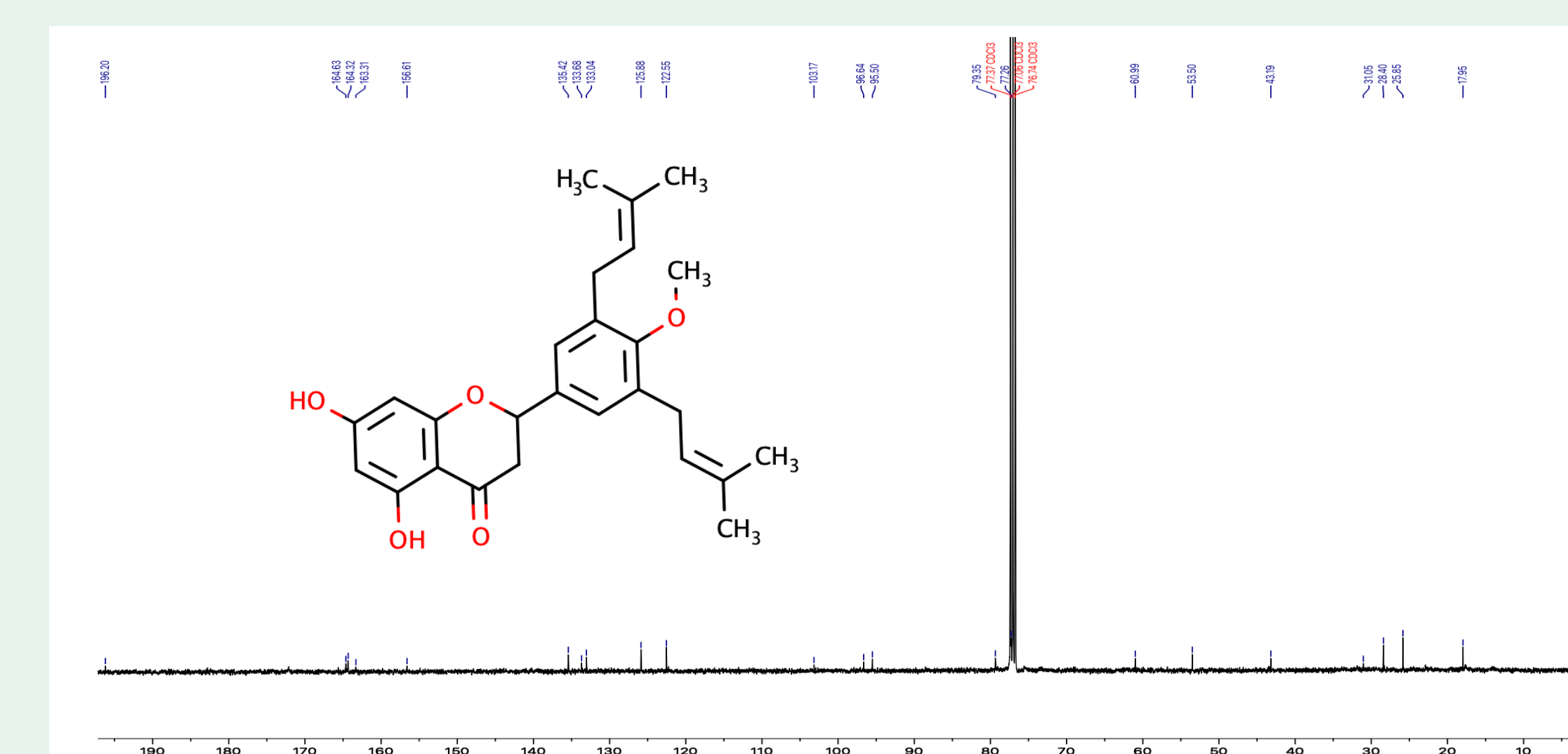
The ^{13}C -NMR spectrum indicated the presence of thirty carbons including two olefinic carbon signals at δc 151.16 (C-20) and 109.46 (C-29) and one oxymethine at δc 79.12 (C-3).

DEPT spectra also revealed the signals of 30 carbons, including six quaternary carbons at δc 37.26, 38.98, 40.91, 42.92, 43.12 and 151.16; eleven methylene at δc 18.42, 20.70, 27.2, 27.2, 27.9, 29.53, 34.51, 35.3, 38.47, 39.8 and six methyl carbons at δc 14.34, 15.19, 15.94, 16.58, 17.81 and 19.10. The spectra values were further compared with the literature values and they were consistent with the reported **lupeol** [2].



The ^{13}C -NMR spectrum indicated the presence of twenty eight carbons including a carbonyl carbon signals at δc 196.20 (C-4) and one oxymethylene at δc 156.61 (C-4').

DEPT spectra also revealed the signals of twenty eight carbons, including six quaternary carbons at δc 103.17, 133.04, 133.04, 133.68, 135.42 and 135.42; and six methyl carbons at δc 95.50, 96.64, 122.55, 122.55, 125.88 and 125.88. The spectra values were further compared with the literature values and they were consistent with the reported **abyssinone V-4' Methyl Ether** [3].



CONCLUSION

Repeated column chromatography of the neutral fraction from the bark extract afforded a pentacyclic triterpenoid commonly known as **lupeol** (Figure 2) and **abyssinone V-4' Methyl Ether** (Figure 3) which is a common flavanone in the *Erythrina* species.

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