

## ABSTRACT

In the endeavor to obtain new antitrypanosomal agents, particularly sesquiterpene lactones, from Kenyan plants of the family Asteraceae, *Vernonia cinerascens* Sch. Bip. was investigated. Bioactivity-guided fractionation and isolation in conjunction with LC/MS-based dereplication has led to the identification of vernodalol (**1**) and isolation of vernodalin (**2**), 11 $\beta$ ,13-dihydrovernodalol (**3**), 11 $\beta$ ,13-dihydrovernolide (**4**), vernolide (**5**), 11 $\beta$ ,13-dihydrohydroxyvernolide (**6**), hydroxyvernolide (**7**), and a new germacrolide type sesquiterpene lactone vernocinerascolide (**8**) from the dichloromethane extract of *V. cinerascens* leaves. Compounds **3-8** were characterized by extensive analysis of their 1D and 2D NMR spectroscopic and HR/MS spectrometric data. All the compounds were evaluated for their in vitro biological activity against bloodstream forms of *Trypanosoma brucei rhodesiense* and for cytotoxicity against the mammalian cell line L6. Vernodalin (**2**) was the most active compound with an IC<sub>50</sub> value of 0.16  $\mu$ M and a selectivity index of 35. Its closely related congener 11 $\beta$ ,13-dihydrovernodalol (**3**) registered an IC<sub>50</sub> value of 1.1  $\mu$ M and a selectivity index of 4.2.

**Keywords:** Asteraceae; *Trypanosoma brucei rhodesiense*; *Vernonia cinerascens*; antitrypanosomal activity; sesquiterpene lactones.