

ABSTRACT

Two new naphthoquinones, 5 - hydroxy - 3,6 - dimethoxy - 2 - methyl naphthalene - 1,4 - dione (1) and 5,8 - dihydroxy - 3 - methoxy - 2 - methyl naphthalene - 1,4 - dione (2), were isolated from the roots of *A. secundiflora* together with the known compounds chrysophanol, helminthosporin, isoxanthorin, ancistroquinone C, aloesaponarins I and II, aloesaponols I and II, laccaic acid D methyl ester and asphodelin. The structures were elucidated based on spectroscopic evidence. This appears to be the first report on the occurrence of naphthoquinones in the genus *Aloe*. 5 - Hydroxy - 3,6 - dimethoxy - 2 - methyl naphthalene - 1,4 - dione showed activity against *Candida albicans* and *Microsporum gypseum* with zones of inhibition of 16 and 10 mm respectively. At the same time, Aloesaponarin I and 5 - hydroxy - 3,6 - dimethoxy - 2 - methyl naphthalene - 1,4 - dione showed anti - bacterial activity against *Mycobacterium tuberculosis* with MIC values of 21 - 23 $\mu\text{g}/\text{mL}$ in the Microplate Alamar Blue Assay (MABA) and Low Oxygen Recovery Assay (LORA) ; with 5 - hydroxy - 3,6 - dimethoxy - 2 - methyl naphthalene - 1,4 - dione also showing cytotoxicity against the Vero cell - line (IC 50 = 10.2 $\mu\text{g}/\text{mL}$).