



# New Thiophene and Flavonoid from *Tagetes minuta* Leaves Growing in Saudi Arabia

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## Abstract:

Phytochemical investigation of the methanolic extract of *Tagetes minuta* L. (Asteraceae) leaves resulted in the isolation and identification of two new compounds: 5-methyl-2,2',5',2'',5'',2''',5''',2''''-quinquethiophene (1) and quercetagenin-6-O-(6-O-caffeoyl- $\beta$ -D-glucopyranoside) (9), in addition to seven known compounds: quercetin-3,6-dimethyl ether (2), quercetin-3-methyl ether (3), quercetin (4), axillarin-7-O- $\beta$ -D-glucopyranoside (5), quercetagenin-3,7-dimethoxy-6-O- $\beta$ -D-glucopyranoside (6), quercetagenin-7-methoxy-6-O- $\beta$ -D-glucopyranoside (7), and quercetagenin-6-O- $\beta$ -D-glucopyranoside (8). The compounds were identified by UV, IR, 1D, 2D NMR, and HRESIMS spectral data. They showed significant antioxidant activity, comparable with that of propyl gallate. Compounds 8 and 3 showed weak to moderate antileishmanial and antimalarial activities, with IC<sub>50</sub> values of 31.0  $\mu$ g/mL and 4.37  $\mu$ g/mL, respectively.

## Published In:

Molecules, doi: 10.3390/molecules19032819 , Vol. 19 , pp. 2819-2828