Thin-layer Chromatography

Thin-layer chromatography (TLC) analysis was performed by applying 5 µL of the samples (resuspended with 100 µL of MeOH) to pre-coated silica gel 60 F254 (Merck, Darmstadt, Germany). The samples were applied manually with a syringe (Hamilton, ref. 80465) in 1.0 cm bands with a 1.0 cm spacing between each, and the development distance was 8.0 cm. The mobile phase consisted of butanol: acetic acid: water (4:1:1, v/v/v) and the detection of MNZ was performed by UV irradiation at 254 nm. For the determination of polyphenolic compounds, the derivatizing agent NP (2-aminoethyl diphenylborinate acid; Sigma-Aldrich) (1% w/v in MeOH) was used, followed by UV irradiation at 365 nm (Wagner and Bladt, 1996). Antioxidant activity was monitored by immersing the plate in a methanolic solution of the DPPH• radical at 232 mg/L (1,1-diphenyl-2-picrylhydrazyl). After immersion and removal of the excess reagent, a reaction time of 10 min was allowed before the chromatographic plates were recorded.

The chromatographic experiment used for image densitometry analysis followed the procedure described previously (UV irradiation at 254 nm). For quantification, the sample application volumes were: 5 µL for the construction of the analytical curve (1, 0.5, 0.25, 0.12, 0.06 mg/mL of MNZ) and the MNZ soil extract was applied; 10 µL for the methanolic plant extract, and 2.5 µL for the reference substance.

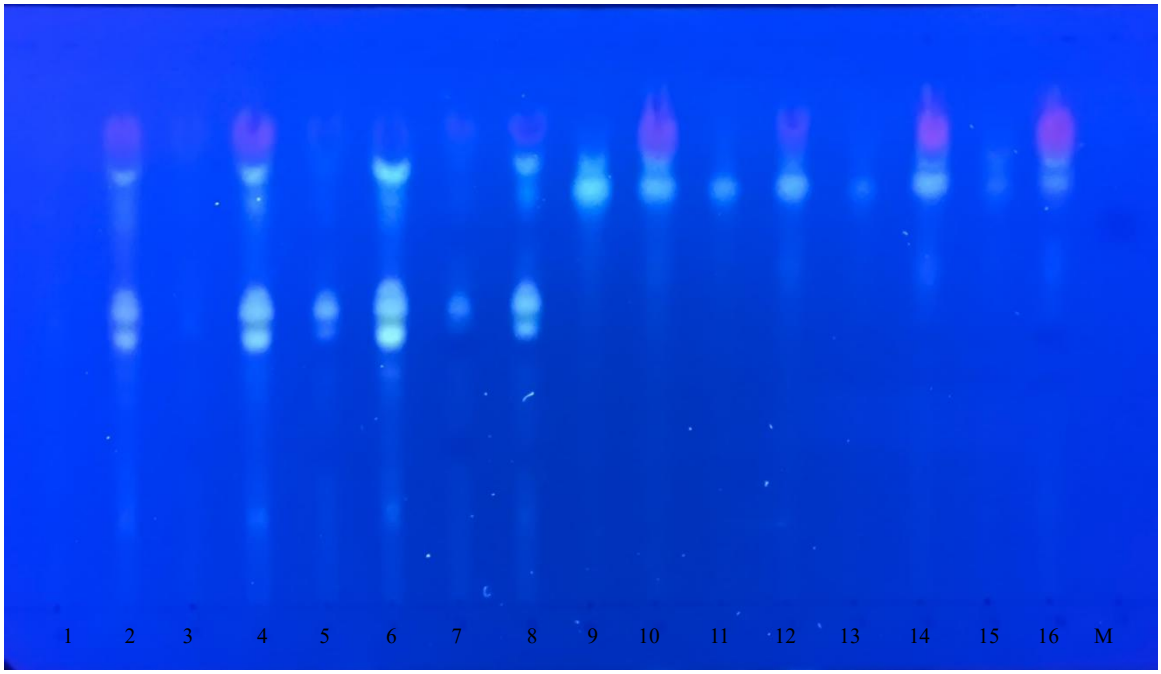
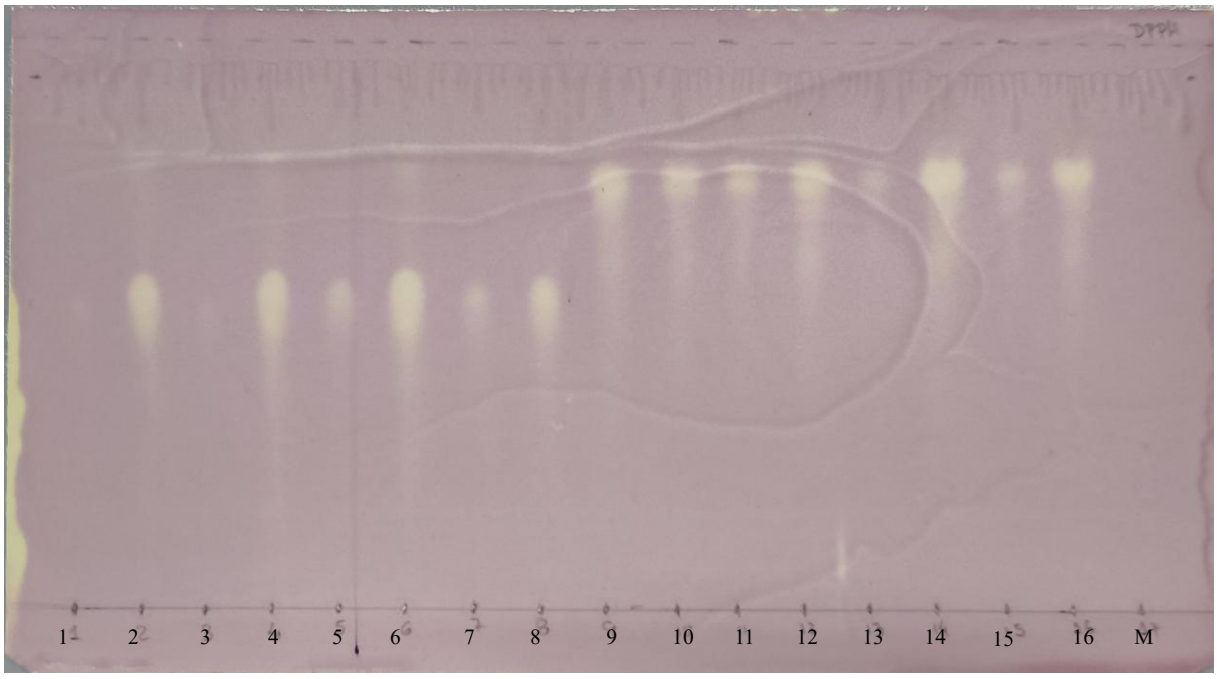


Fig. Thin-layer chromatographic profiles of the methanolic extracts from *L. esculentum* (tomato): roots (1, 3, 5, and 7 – in order: control, 250, 500, and 750 ppm) and aerial parts (stems + leaves) (2, 4, 6, and 8 – same order); *O. basilicum* (basil): roots (9, 11, 13, and 15 – in order: control, 250, 500, and 750 ppm) and aerial parts (stems + leaves) (10, 12, 14, and 16 – same order); M: reference substance (metronidazole). Stationary phase: silica gel. Mobile phase: n-butanol:acetic acid:water (4:1:1, v/v/v). Application volume: 5 µL; concentration: undetermined. Visualization: NP (1%) + UV light at 365 nm.



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