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## **Bioaccumulated metals in native plants from the mining area of Rodalquilar (South Spain)**

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The Rodalquilar gold mining district (Almería, south Spain) is an abandoned mining area extensively exploited since roman age up to the end of last century. Different types of metallic mineralizations appear in the zone, related with volcanic rocks, usually in the form of sulphides or native elements. As consequence of the extraction of metals (Au, Pb, Zn, Cu, etc.), important volume of dumps waste had been generated. In this work, the effect of the mining activity on native and cultivate plants (twenty one classes) was monitored determining the content of twelve elements (As, Ba, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, V, and Zn). A data matrix constructed with the recollected samples has been subjected to different Pattern Recognition techniques such as Hierarchical Cluster Analysis, and Factor Analysis in order to study the behaviour of the samples in relation with their bioaccumulation effect. On the other hand, two bioaccumulation factors have been estimated, one (defined as “bioaccumulation plant/soil factor” -closely related with the type of anthropogenic origin-), and other (defined as “bioaccumulation plant/paste saturate extract” – closely related with the soluble in water forms of the elements analysed). It can be concluded that, in the most of the cases the plants show good metal accumulation behaviour (beneficial for decontaminating heavy metals from polluted soils) although in some cases an

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exclusion strategy for metal tolerance have been developed for the specimen.