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Title: Oregano and Paprika Spices: Their Thermoluminescent Characteristics for Food Irradiation Dose Assessment

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**Abstract:** The polyminerals content from commercial dust oregano and paprika were extracted and selected by sizes of < 10, 10-53, 53-74 and 74-149 µm and exposed to gamma radiation at different doses in the range 0.5-45 kGy. The glow curves from these polyminerals show an abroad TL band, centered around 450 K and composed of 9-10 glow peaks as calculated by a deconvolution procedure. The XRD analysis shows a composition of mainly quartz and feldspar, including albite, ortose and clay. The fading behavior can be mainly related to the low temperature peaks of the various minerals contained in the spices. The intensity the TL emission increases as the grain size increases for both spices. The TL properties of the polymineral contain of the spices were analyzed and it is possible to conclude that the polymineral content of both oregano and paprika can be used as efficient and practical way to determine the thermoluminescence dose assessment in herbs and spices exposed to ionizing radiation.

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