PARAMAGNETIC CENTERS IN MEDICINAL PLANTS OF AZERBAIJAN

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Using the Electron Paramagnetic Resonance (EPR) method, the influence of various radiation factors (ionizing gamma radiation, UV radiation, etc.) on living organisms (plants and animals) was studied [1, 2]. Identification of spectra recorded in a wide range of magnetic fields showed that, under the influence of radiation factors, signals characterizing magnetic iron oxide nanoparticles (g=2.32; ΔH=320 G) are recorded in them [3,4]. In recent years, we have been studying some medicinal plants of Azerbaijan using the EPR method. In most of them (rosemary (Salvia rosmarinus), rosehip (Rosa L.), etc.), the obtained spectra indicate the presence of nanophase crystalline magnetic particles (Fig. 1).

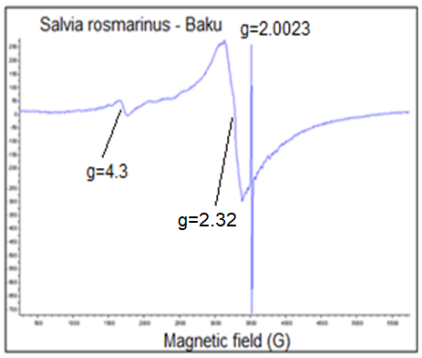

Fig.1. EPR spectra of rosemary leaves (Salvia rosmarinus)

Literature

1. *Aygun Nasibova, Rovshan Khalilov, Mahammad Bayramov, Islam Mustafayev, Aziz Eftekhari, Mirheydar Abbasov, Taras Kavetskyy, Gvozden Rosic, Dragica Selakovic. Electron Paramagnetic Resonance Studies of Irradiated Grape Snails (Helix pomatia) and Investigation of Biophysical Parameters. Molecules. V.28, İ.4, P.1872. 2023.*
2. *Aygun Nasibova, Rovshan Khalilov, Huseyn Abiyev, Boris Trubitsine, Aziz Eftekhari. Identification of the EPR signals of fig leaves (Ficus carica L.). Eurasian Chemical Communications. V.3, P.193-199, 2021.*
3. *Nasibova A.N., Khalilov R.I. Preliminary studies on generating metal nanoparticles in pomegranates (Punica Granatum) under stress. International Journal of Development Research. Vol.6, Issue 03, pp. 7071-7078.*
4. *Nasibova Aygun. The use of EPR signals of snails as bioindicative parameters in the study of environmental pollution. Advances in Biology & Earth Sciences. Vol.4, No.3, 2019, pp.196-205.*