



Chromatographic Analysis of Irradiated Medicinal Herbs: *Rhamnus purshiana* D.C. and *Paulinia cupana* Kunth

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Introduction: Nowadays the interest in phytotherapeutics is increasing; therefore the consumer attention to the medicinal active plants is growing. The rich Brazilian flora, represents more than 20% of the plant species know in the world as raw materials for pharmaceutical preparations. Since the last decade microbiological decontamination of medicinal herbs by irradiation has been carried out and presented in many scientific articles. The microbial contamination in these raw plant materials is the issue of several studies, which propose appropriate techniques for the reduction of micro-organisms. One of these techniques is radiation processing by gamma source industrial plants. Other is the utilisation of accelerators. In order to safeguard consumers, treatment by ionizing radiation is allowed now in Brazil to medicinal herbs and pharmaceutical products. The radiation process is known as safe for a large variety of products and applications as well as a effective in the reduction of pathogenic micro-organisms. The aim of our study is observe if flavonoids and alkaloids will be influenced by irradiation. **Experimental:** *Samples* - Local herbs companies in São Paulo, Brazil, provided dehydrated samples of *Rhamnus purshiana* D.C. and *Paulinia cupana* Kunth. *Irradiation* - The powdered samples were irradiated in on plastic package in a electron beam accelerator facility of Radiation Dynamics Inc., USA ($E= 1,5$ MeV, $I=25$ mA, installed in IPEN São Paulo, Brazil. The irradiation doses were 10; 20 and 30 kGy at room temperature. The thickness of samples was less than 0,5 cm. *Sample analysis* -flavonoids and alkaloids analysis was performed in a Thin Layer Chromatography according to Wagner (1995). **Results and discussion:** No alterations in the flavonoids and alkaloids, after irradiation treatment in that herbs was observed. Chromatographic analysis of the different extracts irradiated at increasing doses indicated that there were no great differences in the chemical constitution of the herbs. The extracts, presented no change in the color increasing the irradiation doses (results are similar in other herbs extracts) as showed in the absorption peaks. The samples showed similar curves, presenting no changes in the chemical compounds. Pharmacological activity of medicinal herbs has been found satisfactory after treatment by high doses radiation. **Acknowledgments:** The authors are grateful to Quimer and IPEN/CNEN-SP.