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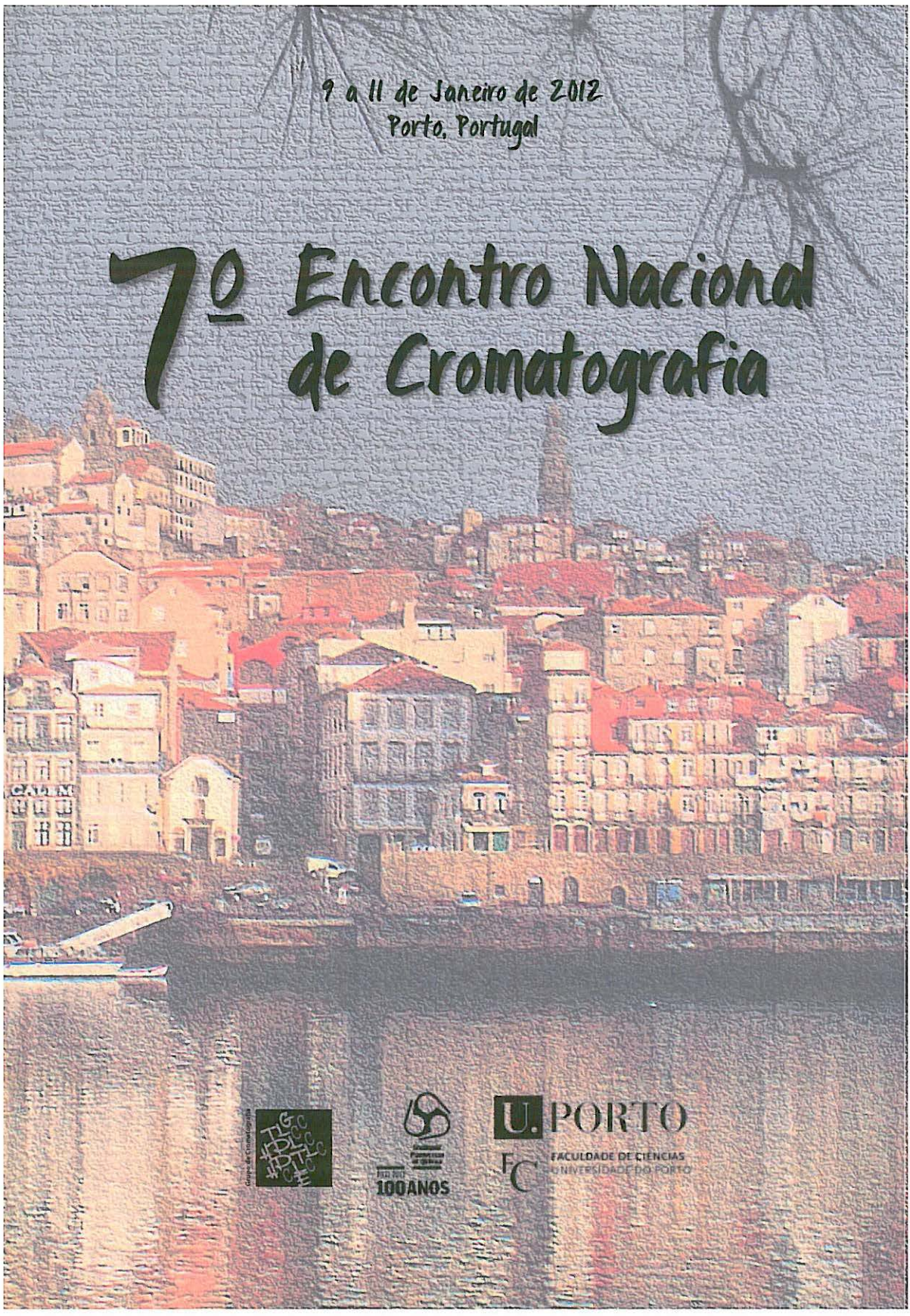

Grupo de Cromatografia

100 ANOS

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P55. Characterization of phenolic and polysaccharidic extracts of *Ganoderma lucidum* by chromatographic techniques

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Ganoderma lucidum is one of the most extensively studied mushrooms due to its medicinal properties such as the capacity to lower the risk of cancer, liver, and heart diseases and to boost the immune system [1]. The beneficial health properties of Ganoderma are attributed to a wide variety of bioactive components present in the fruiting body, mycelium, and spores [2]. Herein, a systematic study was carried out in order to compare the antioxidant activity of phenolic and polysaccharidic extracts from fruiting body, spores and mycelium, obtained in three different culture media, of *G. lucidum* from Northeast Portugal. Phenolic extracts were characterized by high-performance liquid chromatography coupled to photodiode array detection, while polysaccharidic extracts were hydrolysed and further characterized by HPLC and refraction index detection. The bioactive compounds were related to free radical scavenging properties, reducing power and lipid peroxidation inhibition. The phenolic extracts (Ph) of fruiting body (FB) and mycelia (M) proved to have higher antioxidant potential than their corresponding polysaccharidic extracts (Ps). For the spores (S), the opposite was observed. FB-Ph was the most potent (EC_{50} values ≤ 0.62 mg/ml) and revealed the highest content in total phenolics (28.64 mg GAE/g extract) and phenolic acids such as *p*-hydroxybenzoic and *p*-coumaric acids. Among the polysaccharidic extracts, S-Ps gave the best antioxidant activity (EC_{50} values ≤ 2.02 mg/ml), but the highest total polysaccharides (14.50 and 13.98 mg PE/g extract for M-PDA-Ps and M-sMMN-Ps, respectively) and individual sugars were observed in mycelia obtained from solid culture media. The free radical scavenging properties, reducing power and lipid peroxidation inhibition of *G. lucidum* are more correlated with phenolic compounds than with polysaccharides.

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