OC10 Development of statin-like and ergosterol enriched extracts from mushroom bio residues

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Although cholesterol is essential for the functioning of the human body, its excess is responsible for causing atherosclerosis, along with several other diseases that affect the bones, liver, hormones, and immune system[1]. As a natural solution, mushrooms are being studied for their ability to reduce cholesterol due to their richness in molecules capable of reducing both cholesterol absorption and synthesis[2,3]. Therefore, the present work investigated two mushrooms species (*Agaricus bisporus* L. and *Pleurotus ostreatus* L.), aiming at extracting the highest contents of statins and ergosterol. Ultrasound assisted extraction (UAE) optimization was performed followed by quantification of ergosterol and statins of the extracts by HPLC-UV[4,5], as well as the effect of the temperature on both extractions (with and without iced bath), since statins are described as sensitive to high temperatures. For *A. bisporus*, there was no significant differences in the concentration of ergosterol and pravastatin when applying ice bath during the UAE. For *P. ostreatus*, the ice bath resulted in a 6% decrease in the ergosterol concentration and a 35% increase in pravastatin content, suggesting that the best extraction method to obtain an extract rich in hypocholesterolemic compounds is a cold extraction. For optimization, the *P. ostreatus* extract revealed the highest amount of pravastatin and ergosterol (63.85 and 23.95 mg/g of extract, respectively), in which the best extraction conditions were 400 W of ultrasonic power, 4 minutes and 44 seconds of extraction time, and 15.2 g/L of solid:liquid ratio, using methanol as solvent, besides using an ultrasound extraction with ice bath.

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