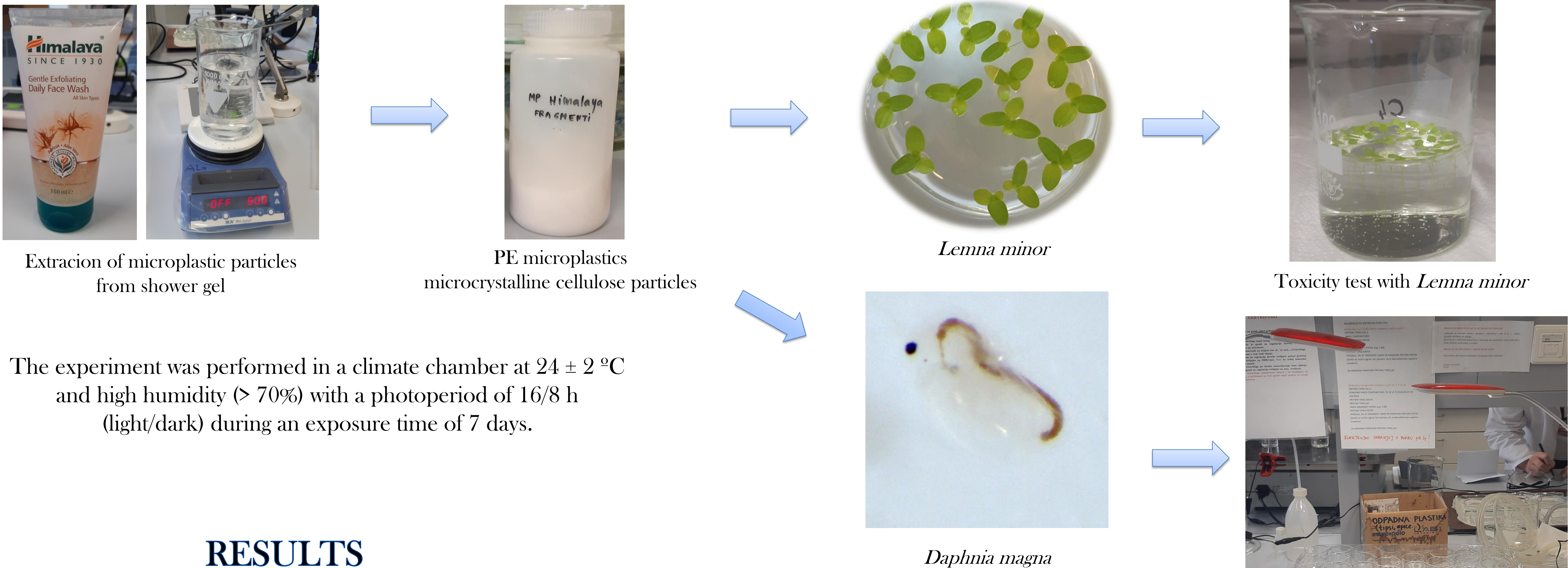


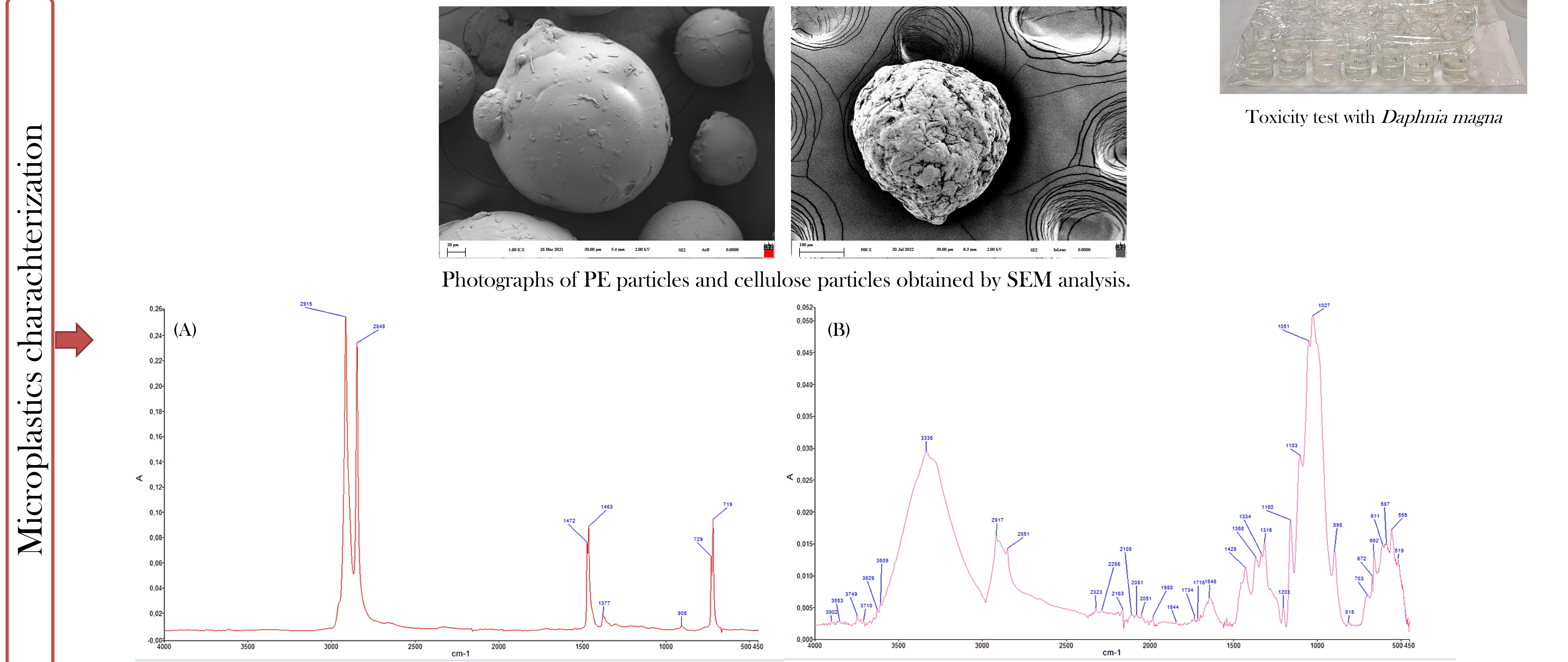
INTRODUCTION

Pollution by microplastics, i.e. particles smaller than 1 mm, is an environmental problem because these particles are detected in all environmental components. One of the sources of microplastics are cosmetic products where microplastics, called microbeads, are used as abrasives. In latest years, the use of microplastics in cosmetics have been limited and these abrasive materials have been replaced by various materials e.g. by microcrystalline cellulose and other materials that have not been yet tested for possible adverse effects.

MATERIALS AND METHODS



RESULTS



Toxicity tests

Obtained results for toxicity tests for microplastics by *Lemna minor* and *Daphnia magna*.

Microparticles	<i>Lemna minor</i>				<i>Daphnia magna</i>					
	Specific growth rate / dan ⁻¹	Root length / mm	Chl a / mg/g _{FW}	Chl b / mg/g _{FW}	Mobility / %		Num. of offspring		Body length / mm	
control	0.27	14.73	0.04	0.11	100*	100**	/	/	1.84*	1.45**
Cellulose	0.26	14.80	0.01	0.09	90*	0**	/	/	1.87*	1.47**
PE	0.27	13.40	0.05	0.11	70*	90**	/	/	1.81*	1.46**

*conditions without feeding; **conditions with feeding; / - effect was not determined

CONCLUSIONS

- results showed no significant effects of both particle types on specific growth rate and the root length
- microcrystalline cellulose particles affected of *Lemna minor* chlorophyll contents and accumulated on plant biomass in higher quantity in comparison to polyethylene microplastics
- particles were also used for *Daphnia magna* inhibition test during which immobilization rate, body length and mortality were monitored