



Supplementary Materials: Polymeric Carriers Designed for Encapsulation of Essential Oils with Biological Activity

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Table 1. The table presenting the polymeric matrices utilized for essential oils (EOs) encapsulation was made based on the documentation performed for the realization of the review and highlights the EOs used and the resulted products with specific biological activity, together with the corresponding reference used.

Polymeric Matrix	EOs	Loading Method/Product Preparation	Activity	Reference
Alginate/soy protein isolate	Thyme	Emulsification/atomization	Antimicrobial/antioxidant	[55]
Alginate/cashew gum	Lippia sidoides	Emulsification	Antimicrobial	[64]
Alginate	Lavender	Emulsification/Electrospinning	Antibacterial/anti-inflammatory	[72]
Alginate/soy or hemp proteins	Green tea extract	Microbeads	Antioxidant	[73]
Sodium alginate/poly(vinyl alcohol)	Cinnamon, clove, lavender	Emulsification/Electrospinning	Antibacterial	[81]
Calcium, aluminum alginate/pectinate	Mentha piperita	Fusion coating procedure	Irritable bowel syndrome treatment	[82]
Soy protein/montmorillonite clays	Eugenol	Suspension/film-forming	Antimicrobial	[56]
Cellulose acetate	Lemongrass	Solvent/non-solvent	Antimicrobial	[85]
Cellulose acetate	Thymol	High pressure techniques	Antibacterial	[86]
Cellulose acetate	Cinnamon/Lemongrass/Pepper mint	Electrospinning	Antibacterial	[89]
Cellulose acetate	Rosemary/Oregano	Electrospinning	Antimicrobial	[90]
Ethyl cellulose	Babchi essential oil	Quasi emulsion solvent evaporation	Antimicrobial/antibacterial	[87]
Silk fibroin/Poly (capro-lactone)/Hyaluronic acid	Thymol	Electrospinning	Antimicrobial	[136]
Chitosan	Thymol	Hydrogel	Antimicrobial/antioxidant	[100]
Chitosan	Thyme	Nanoparticles/nanocapsules	Antibacterial	[103]
Chitosan	Rosmarinic acid	Nanoemulsions	Neuroprotective therapy	[104]
Chitosan modified/ β -cyclo-dextrin	Cinnamomum zeylanicum (CEO)	Ionic gelation	Ocular mucosa, cornea or transdermal delivery of CEO	[105]
Chitosan/Poly (vinyl alcohol)	Cinnamon leaf/Clove/Eugenol	Films via solvent casting/phase inversion	Antimicrobial	[106]
Chitosan/pentasodium tripolyphosphate/sodium hexametaphosphate	Carum copticum	Emulsion/ionic gelation	Antioxidant/antibacterial	[107]
Chitosan	Peppermint/Green tea	Emulsion/ionic gelation	Antioxidant/antibacterial	[108]
Chitosan	Cardamom	Nanoparticles ionic gelation	Antimicrobial	[109]
Chitosan	Carvacrol	Emulsion/ionic gelation	Antimicrobial	[110]
Whey protein	Cinnamon	Emulsion	Antiseptic, antiviral, antifungal, antioxidant	[135]
Whey protein/maltodextrin	Rosemary	Emulsion	Antiseptic/astringent	[121]
Maltodextrin/octenylsuccinic anhydride	Avocado	Microcapsules	Antioxidant/anti-inflammatory	[122]
Gum acacia/maltodextrin	Lavender	Spray drying	Anti-inflammatory/wound-healing	[123]
Arabic gum/maltodextrin/modified starch	Oregano	Spray drying	Antimicrobial	[125]
Chitosan microbeads	Thyme	Microbeads swelling	Antioxidant/antihypertensive	[101]
Chitosan/tripolyphosphate,	Eugenol	Emulsion/ionic gelation crosslinking	Antioxidant	[113]
Chitosan/tripolyphosphate,	Oregano	Emulsion/ionic gelation	Antioxidant	[116]
Chitosan/Poly(ethylene oxide)	Cinnamaldehyde	Electrospinning	Antimicrobial	[118]
Chitosan/Poly(vinyl alcohol)/gelatin	Zataria multiflora	Electrospinning	Antimicrobial	[119]
Gelatin	Piper aduncum L. / Piper	Nanoparticle solvent	Antimicrobial	[141]

	<i>hispidinervum</i> C.	evaporation		
Gelatin/Bacterial cellulose	Curcumin	Film	Antimicrobia /wound healing	[142]
polyelectrolyte				
Starch/Octenyl succinic anhydride	Rosemary	Electrosprayed	Antiseptic/astringent	[128]
Starch	Peppermint	Nanoparticles ultrasonication	Antioxidant/antibacterial	[129]
Starch	Almond	Sprayed micro-encapsulation	Antioxidant	[130]
Modified starch	Lavandula	Supercritical impregnation	Antiinflammatory/antioxidant	[131]
Porous starch	Clove	3D nanonetwork	Antimicrobial/Antibacterial	[132]
Sago starch/guar gum/whey protein	Carvacrol/citral	Composite films	Antimicrobial: prophylaxis of bacterial gastroenteritis	[133]
Poly(ε-caprolactone)/Poly(lactic acid)	Thymol	Electrospinning	Antibacterial	[145]
Poly(ε-caprolactone /poly(vinyl pyrrolidone)	<i>Tecomella undulata</i>	Electrospinning	Antibacterial	[147]
Poly(ε-caprolactone)/poly(vinyl alcohol)	Thyme extract	Coaxial electrospun	Antibacterial	[148]
Poly(caprolactone) / hydroxyapatite	Thymol	Supercritical solvent impregnation	Antibacterial	[149]
Poly(lactic acid)	Linalool	Electrospinning/solution blow spinning	Antibacterial	[151]
Poly(lactic acid)	Candeia	Electrospinning	Antibacterial	[152]
Poly(lactic acid)	Tea Tree/Manuka	Electrospinnig	Antibacterial	[153]
Poly(lactic acid)	Carvacrol	Particle/nano-particle	Antimicrobial	[154]
Poly(lactic acid), poly(methyl methacrylate)	Linalool	Microspheres, solvent evaporation	Antibacterial	[156]
Poly(acrylonitrile)	Lavender	Electrospinnig	Antibacterial	[157]
Poly(vinylpyrrolidone)	Cinnamon	Electrospinnig	Antibacterial	[158]
Propylene Glycol Caprylate/nonionic and hydrophilic surfactants	<i>Piper cubeba</i>	Nanoemulsifying	Anti-inflammatory/astringent/antiseptic	[159]
Tween	<i>Saccocalyx satureioides</i> Coss. et Durieu	Nanoemulsion/High-pressure homogenization	Antioxidant/anticancer	[162]
Tween	<i>Rosmarinus officinalis</i>	Nanoemulsion	Anti-inflammatory/antialgic	[164]
Fish-skin gelatin	Carvacrol	Blow spinning solution	Antimicrobial	[179]
Nanostructured lipid carriers	<i>Rosmarinus officinalis</i> /Lavandula/Origanum/Thymus	Phase inversion temperature / high-pressure homogenization	Anti-inflammatory/antioxidant	[169]

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