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Spray-dried maltodextrin–γ-cyclodextrin microcapsules of garlic essential oil: Release kinetics and application in shelf-life extension of *Nem Chua Hue*

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SUPPLEMENTARY MATERIAL

Table 1S. Equipment's used for this research

No	Name	Technical parameter
1	Rotary vacuum evaporator	Rotavapor R-100, Büchi, Swiss
2	Homogenizer	T18 Ultra Turrax® Digital, IKA, German
3	Spray dryer	Rotary atomizer, manufactured at Vietnam National University of Agriculture
4	Handy spectrophotometer	NF333, Nippon Denshoku, Japan
5	Gas chromatography–mass spectrometry system	GC/MS 7890B/5977B, Agilent, USA
6	UV-Vis Spectrophotometer	GENESYS 150, Thermo Scientific, USA
7	Thermal gravimeter	TGA55, TA Instruments, USA
8	X-ray diffraction	XRD, X'Pert3 Powder, Panalytical
9	FT-IR	Thermo-Nicolet ISO50 FT-IR, Thermo Fisher
10	Other common laboratory equipments: analytical balance, pH meter, drying oven, autoclave, steam distillation system, vacuum pump, closed plastic chamber, etc.)	

Table 2S. The volatiles of garlic essential oil (GEO) identified by GC–MS

No	Retention time (min)	Peak area	Component
1	5.322	1.68	Diallyl sulfide
2	5.933	11.07	Diallyl disulfide
3	7.396	3.72	Allyl metyl disulfide
4	7.9	2.08	Dimethyl trisulfide
5	8.114	0.14	Disulfide, metyl propyl
6	8.829	0.91	Trisulfide, metyl propyl
7	12.419	10.24	Trisulfide, metyl 2-propenyl
8	12.922	3.95	Trisulfide, allyl propyl
9	13.094	20.42	Trisulfide, di-2-propenyl
10	14.029	0.32	Tetrasulfide, dimetyl
11	14.473	5.02	Tetrasulfide, di-2-propenyl
12	14.739	2.49	(E)-1-Allyl-2-(prop-1-en-1-yl)disulfane
13	14.858	0.12	(E)-1-Metyl-3-(prop-1-en-1-yl)trisulfane
14	15.326	0.78	(E)-1-Allyl-3-(prop-1-en-1-yl)trisulfane
15	15.977	3.74	(Z)-1-Allyl-2-(prop-1-en-1-yl)disulfane
16	16.125	0.15	(Z)-1-Metyl-3-(prop-1-en-1-yl)trisulfane
17	18.69	1.42	(Z)-1-Allyl-3-(prop-1-en-1-yl)trisulfane
18	19.159	3.14	1,2-Dithiolane
19	19.367	2.01	3H-1,2-Dithiole
20	19.441	5.2	3-Vinyl-1,2-dithiacyclohex-4-ene
21	19.866	6.4	2-Vinyl-4H-1,3-dithiine
22	24.533	1.81	5-Metyl-1,2,3,4-tetrathiane

Table 3S. *Nem chua Hue* during storage time

Day	Control	0,01% MGEO	0,015% MGEO	0,02% MGEO
1				
2				
3				
4				
5				
6				
7