

Green Synthesis, Characterization, Encapsulation, and Measurement of the Release Potential of Novel Alkali Lignin Micro-/Submicron Particles

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jove.com/video/66216

Materials

Name	Company	Catalog Number	Comments
automatic-cell counter	EVE, NanoEnTek		
Citric acid	Sigma	251275	ACS reagent, ≥99.5%
digital water bath	Memmert		
Eppendorf tubes, 1.5-2 mL			
Ethanol	Sigma	34852-M	absolute, suitable for HPLC, ≥99.8%
Folin–Ciocalteu's phenol reagent	Sigma	F9252	
freeze dryer	Biobase		
gallic acid	Sigma-	BCBW7577	monohydrate
HCl	Sigma	258148	ACS reagent, 37%
HNO ₃	Sigma	438073	ACS reagent, 70%
lignin, alkali	Sigma	370959	
morin	Sigma	PHL82601	
NaCl	Sigma	S9888	ACS reagent, ≥99.0%
Na ₂ CO ₃	Sigma	223530	powder, ≥99.5%, ACS reagent
NaOH	Sigma	655104	reagent grade, 97%, powder
orbital shaker	IKA	KS 130 basic	
pH-meter	Consort		
phosphate-buffered saline (PBS)	Sigma	RNBH7571	
Quercetin hydrate	Sigma	STBG3815V	
statistical software for Excel	Microsoft Corporation		XLSTAT Version 2022.4.5.
Tween 80	Sigma	P8074	BioXtra, viscous liquid
ultracentrifuge	Hermle	Z 326 K	
Ultrapure water system	Adrona	INTEGRITY+	
ultrasound homogenizer	Bandelin Sonopuls	HD 2070	
UV/Vis spectrophotometer	Hach-Lange	DR 5000	