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(71) Applicant: **KROSSLINKER PTE LTD** [SG/SG]; 79 Ayer Rajah Crescent, #05-03, Singapore 139955 (SG).

(72) Inventors: **SACHITHANADAM, Mahesh**; 89 Tanglin Halt Road, #22-350, Singapore 141089 (SG). **ELMIRA**,

Soghrati Khorasgani; 101 Hillview Rise, #23-04, Kingsford, Hillview Peak, Singapore 667981 (SG). **NATARAJAN, Gayathri**; 22 Bukit Batok Street 52, #21-02, Guilin View, Singapore 659245 (SG).

(74) Agent: **TAN WEN MIN DESMOND**; Fpa Patent Attorneys Asia PTE. LTD., 10 Collyer Quay, #07-03 Ocean Financial Centre, Singapore 049315 (SG).

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(54) Title: SYSTEM AND METHOD FOR MANUFACTURING WATER-BASED HYDROPHOBIC AEROGELS AND AEROGEL COMPOSITES

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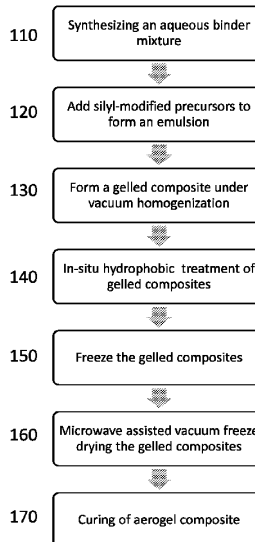


FIG 1

(57) Abstract: Embodiments of the present invention provide users with a system and method for manufacturing water-based hydrophobic aerogels and aerogel composites. The system and method can be carried out in a manner which is more rapid than typical ways and can be readily scalable. The method of manufacture is useful for producing water based hydrophobic aerogels and aerogel composites on a large scale with good homogeneity and consistency. Advantageously, the method of manufacture also has the benefit of a shorter processing time due to the vacuum homogenizing and mixing processes, the use of microwave assisted vacuum freeze drying for ease of synthesis of water-based hydrophobic aerogels.

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