**COVER LETTER**

Grandprix T. M. Kadja July 24, 2021

Institut Teknologi Bandung

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Dear Editor of Indonesian Journal of Chemistry,

We wish to submit an original research article entitled “**On The Mechanical and Thermal Properties of Poly(vinyl alcohol)–alginate Composite Yarn Reinforced With Nanocellulose From Oil Palm Empty Fruit Bunches**” for consideration by the Indonesian Journal of Chemistry.

We confirm that the written manuscript is original, and no part of it has been published before, nor is any part of it currently under consideration for publication elsewhere.

Herein, we report the detailed investigation of the thermal and mechanical properties of PVA-alginate composites yarn reinforced with nanocellulose. The used nanocellulose is isolated from a sustainable source, i.e., oil palm empty fruit bunches (OPEFBs). Our results show that the presence of nanocellulose modifies the structural frameworks of PVA-alginate composite to strengthen its mechanical and thermal properties. The tensile strength of the PVA-alginate composites increases as the content of nanocellulose is enhanced. This similar trend is found for the degradation temperature of the composites. Moreover, we also further elaborate on the observed activation energies (*E*obs) of the composites’ thermal degradation. Again, it is found that the *E*obs shows an increment with the addition of nanocellulose. The reinforcing effect of nanocellulose is originated from its abundant and more robust hydrogen bonds with the PVA-alginate frameworks.These findings will draw great attention of researchers in emerging areas of nanomaterials, composite, and sustainable engineering, which we eventually believe that this paper is worth publication in Indonesian Journal of Chemistry.

Please find below a list of potential reviewers for this work.

We have no conflicts of interest to disclose.

Please address all correspondence concerning this manuscript to me at kadja@chem.itb.ac.id.

Your consideration is very much appreciated. We are looking forward to your favorable reply.

Sincerely,

Grandprix T. M. Kadja

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