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Study of the flexural modulus of lignocellulosic fibers reinforced bio-based polyamide11 green composites

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1 Study of the flexural modulus of 2 lignocellulosic fibers reinforced bio- 3 based polyamide11 green composites

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14 **ABSTRACT**

15 The stiffness of a material has high impact when its industrial use is considered.
16 Moreover, this property has interest in the case of short fiber reinforced materials due to
17 its dependence on the orientation of the fibers against the loads. Due to nowadays-
18 environmental concerns, greener alternatives to oil-based composites are under study
19 and development showing some promising results. In this work, a polyamide 11
20 reinforced with lignocellulosic fiber composite is evaluated as such sustainable
21 alternative. Previous works showed the suitability of PA11-based composites to replace
22 glass fiber reinforced polypropylene. Nonetheless, there is a lack of information about
23 the flexural modulus behavior of these composites. This is of interest because, under
24 some conditions, flexural modulus is more representative of a material behavior than

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