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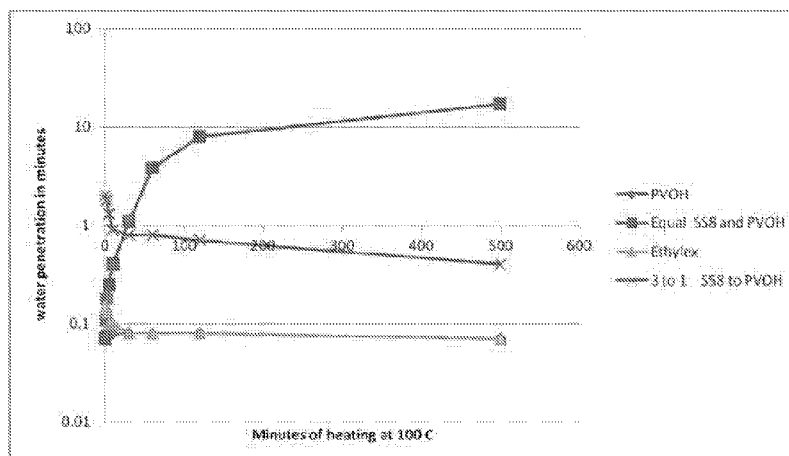


FIG. 5

(57) **Abstract:** The present invention describes tunable methods of treating cellulosic materials with a composition that provides increased hydrophobicity and/or lipophobicity to such materials without sacrificing the biodegradability thereof. The methods as disclosed provide for binding of saccharide fatty acid esters on cellulosic materials, including that the disclosure provides products made by such methods. The materials thus treated display higher hydrophobicity, lipophobicity, barrier function, and mechanical properties, and may be used in any application where such features are desired.

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