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(57) Abstract: The present invention describes a process involving liquefaction of a biomass slurry by treatment in hot compressed water (HCW), said process comprising: -a first decomposition step being performed at an average pH level of at most 4.5, wherein a hemicellulose fraction in the biomass slurry is decomposed to water soluble mono-and/or oligomers, and wherein a cellulose fraction undergoes a pre-treatment for decrystallization of the cellulose polymer; -a separation step; and -a second decomposition step, wherein the cellulose fraction in the biomass slurry is decomposed to water soluble mono-and/or oligomers; wherein both of the first and second decomposition steps are performed at sub-critical temperatures implying relatively moderate conditions.



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