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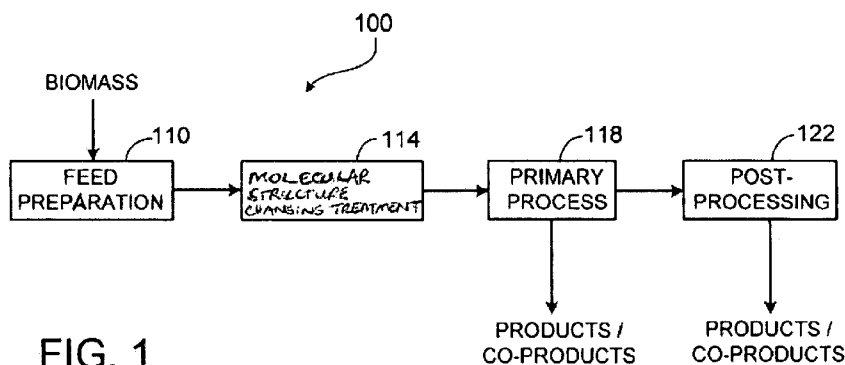


FIG. 1

(57) Abstract: Methods are provided for changing a molecular structure of a biomass feedstock. The methods include a screw extrusion process.