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(54) Title: PROCESSES FOR CONVERTING PLASTIC MATERIAL TO OLEFINS

(57) Abstract: Processes and systems for converting hydrocarbons by pyrolysis. In some embodiments, a plastic material and a carrier liquid that can include a hydrocarbon can be introduced into a vis-breaker. At least a portion of the plastic material can be cracked in the vis-breaker under vis-breaking conditions to produce an effluent that can include a pyrolysis oil. At least a portion of the effluent can be heated within a convection section of a steam cracking furnace and combined with an aqueous fluid to produce a heated mixture that can include hydrocarbons and steam. The heating can be earned out before, during, and/or after the at least a portion of the effluent is combined with the aqueous fluid. At least a portion of the heated mixture can be steam cracked within a radiant section of the steam cracking furnace to produce a steam cracker effluent comprising one or more olefins.



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