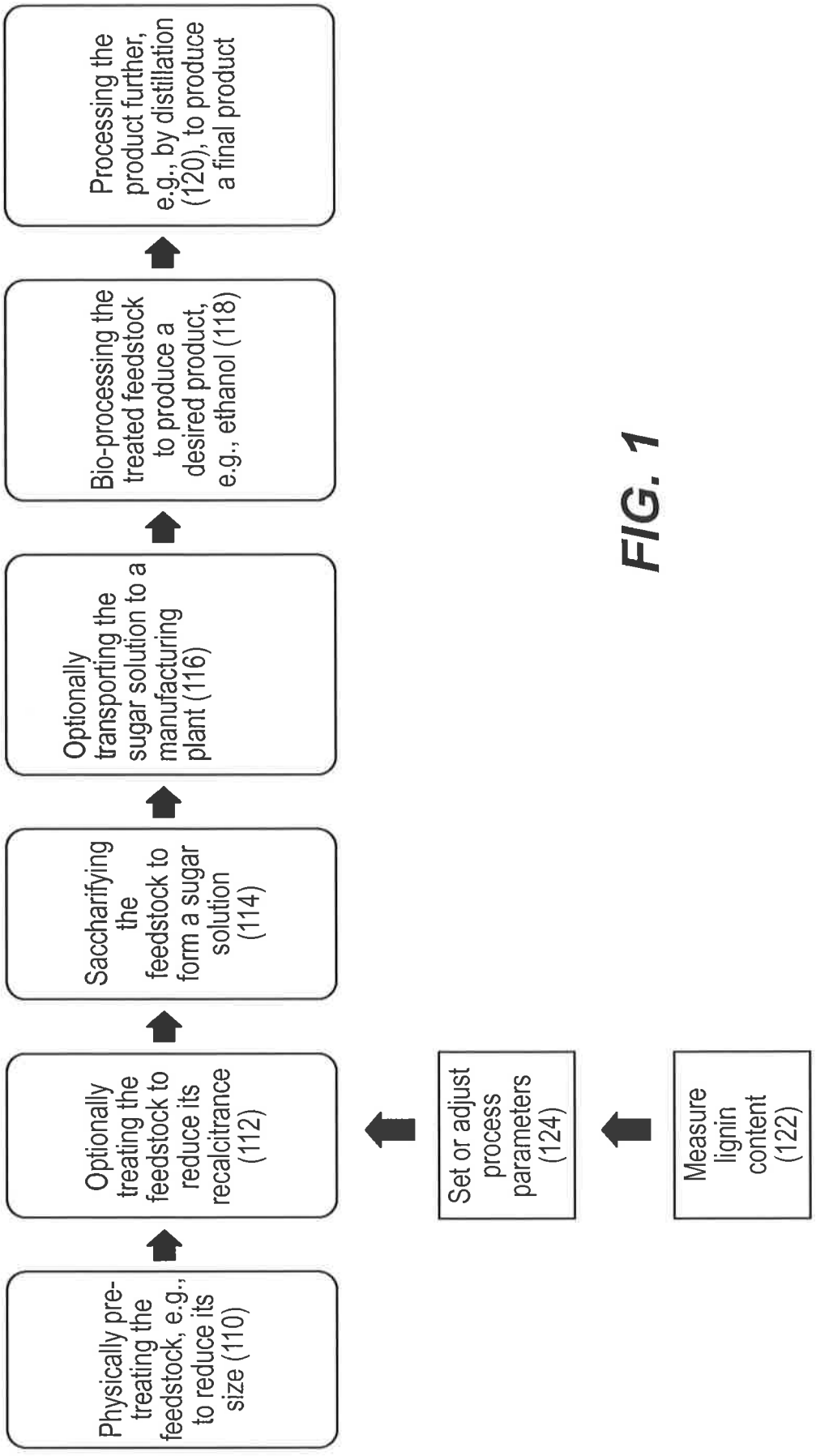

Physically pre-treating the feedstock, e.g., to reduce its size (110)
Optionally treating the feedstock to reduce its recalcitrance (112)
Saccharifying the feedstock to form a sugar solution (114)
Optionally transporting the sugar solution to a manufacturing plant (116)
Bio-processing the treated feedstock to produce a desired product, e.g., ethanol (118)
Processing the product further, e.g., by distillation (120), to produce a final product
Set or adjust process parameters (124)
Measure lignin content (122)

FIG. 1

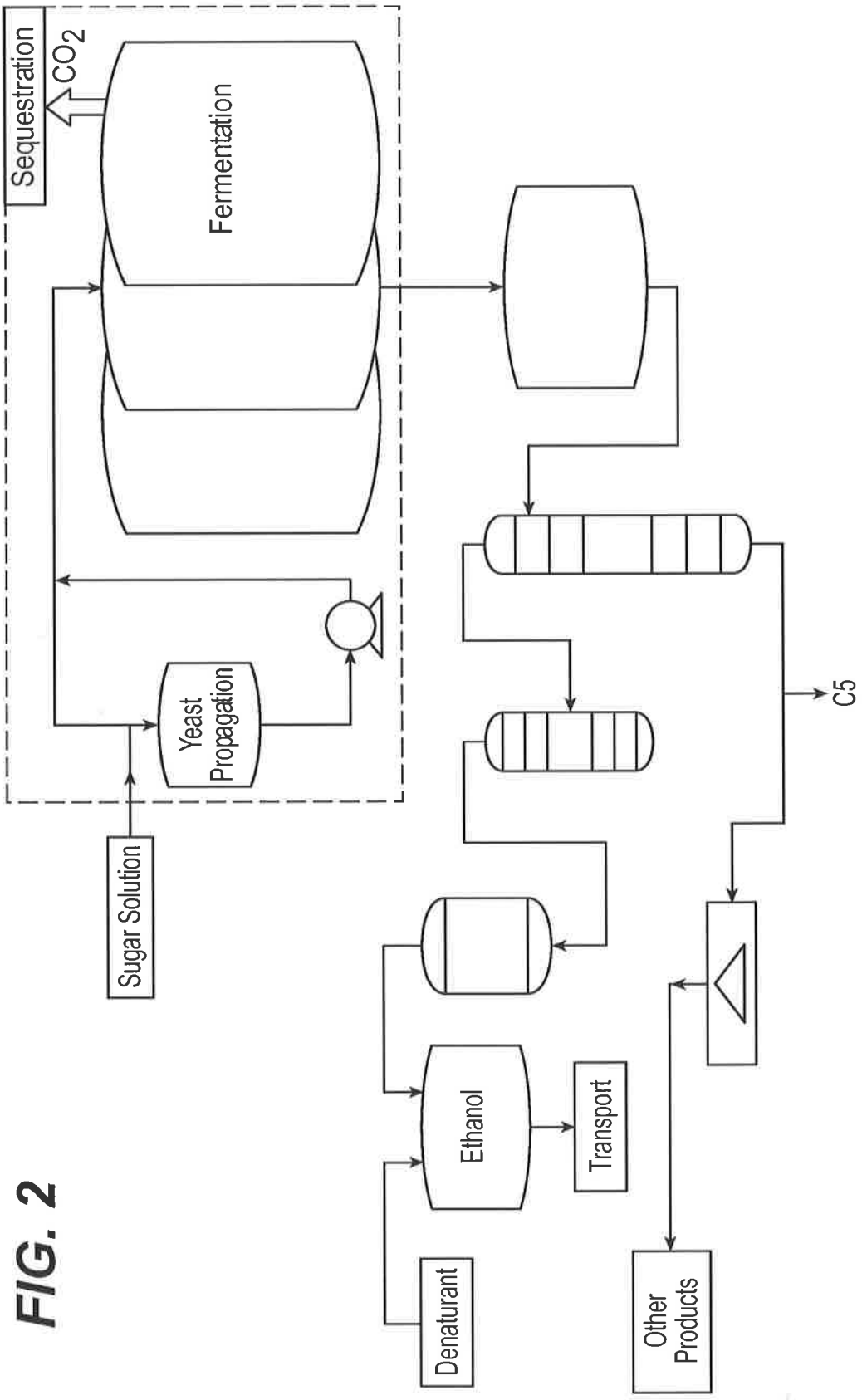

Sequestration
$CO_2$
Fermentation
Yeast Propagation
Sugar Solution
C5
Ethanol
Transport
Denaturant
Other Products

FIG. 2

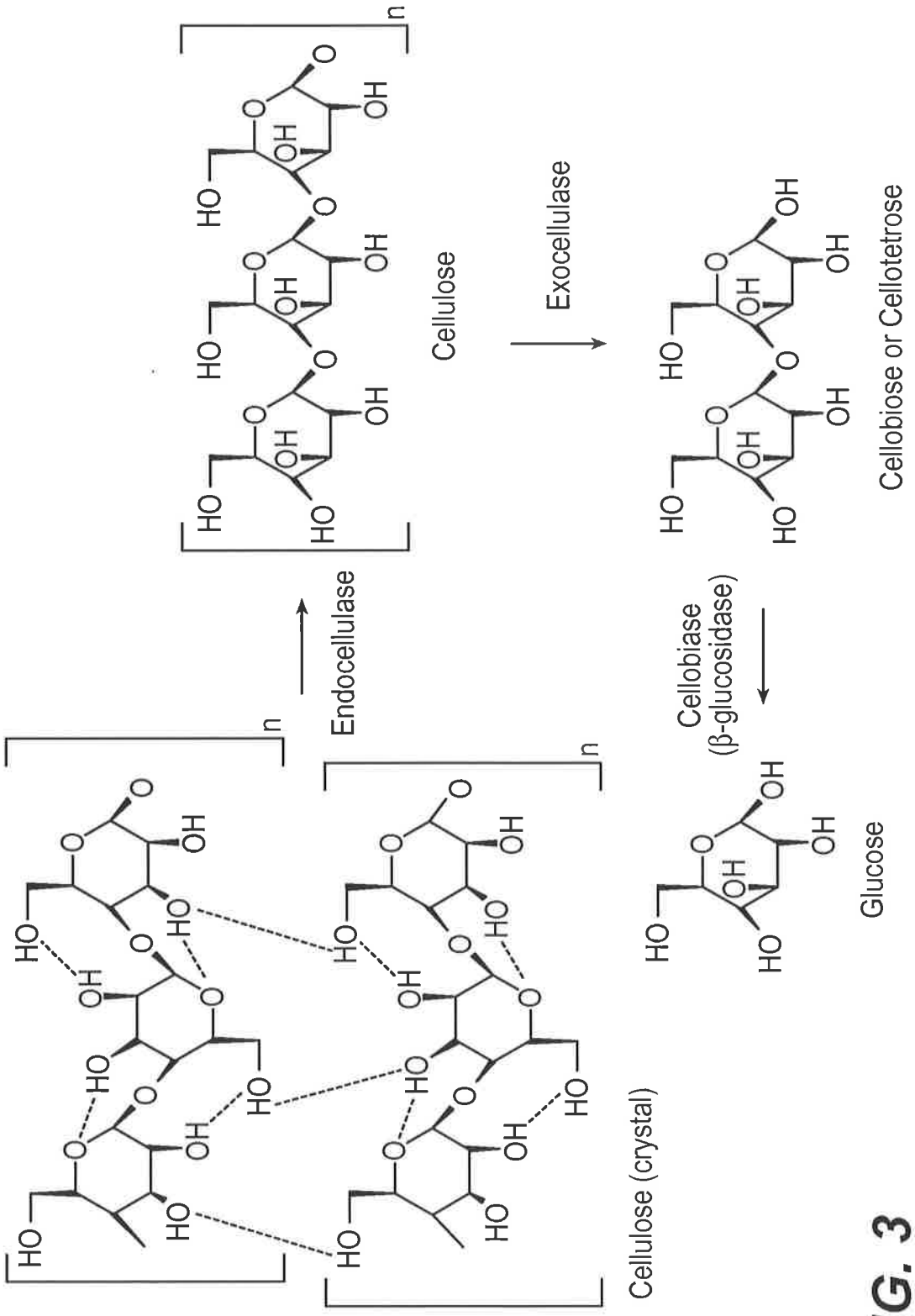

Cellulose (crystal)
Endocellulase
Cellulose
Exocellulase
Cellobiose or Cellotetrose
Cellobiase
(β-glucosidase)
Glucose

FIG. 3