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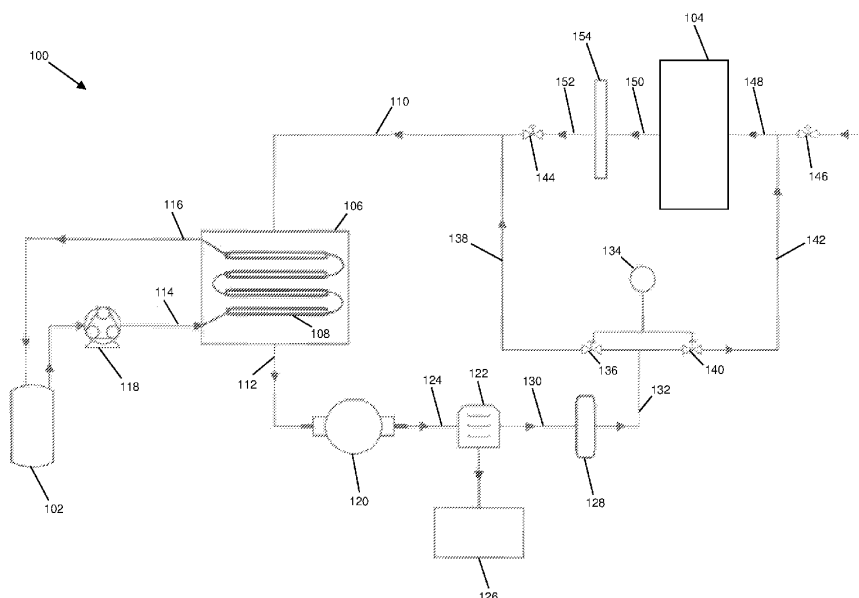
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(54) Title: LOW TEMPERATURE SEPARATION METHOD USING 2D MATERIAL-BASED NANOCOMPOSITE COATING

Figure 1



(57) Abstract: The present invention provides a nanocomposite coating comprising: a two-dimensional material; and a polymer, wherein the nanocomposite coating is semi-permeable and is for providing on porous material to improve selectivity towards one phase over others thereby enabling separation of that phase by mass transfer. There is also provided a phase transformation and mass transfer unit comprising porous material coated with the nanocomposite coating, and a low temperature liquid phase separation method comprising flowing liquid mixture through a phase transformation and mass transfer unit comprising porous material coated with the nanocomposite coating.

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