

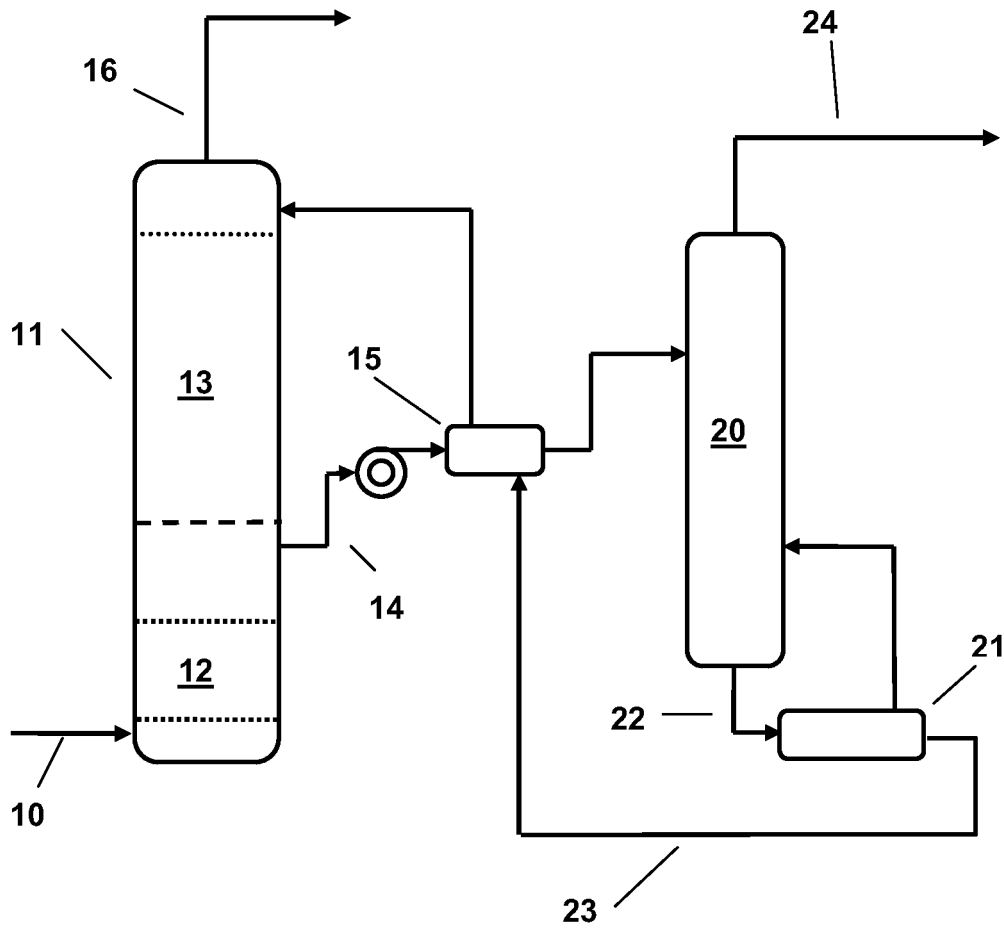
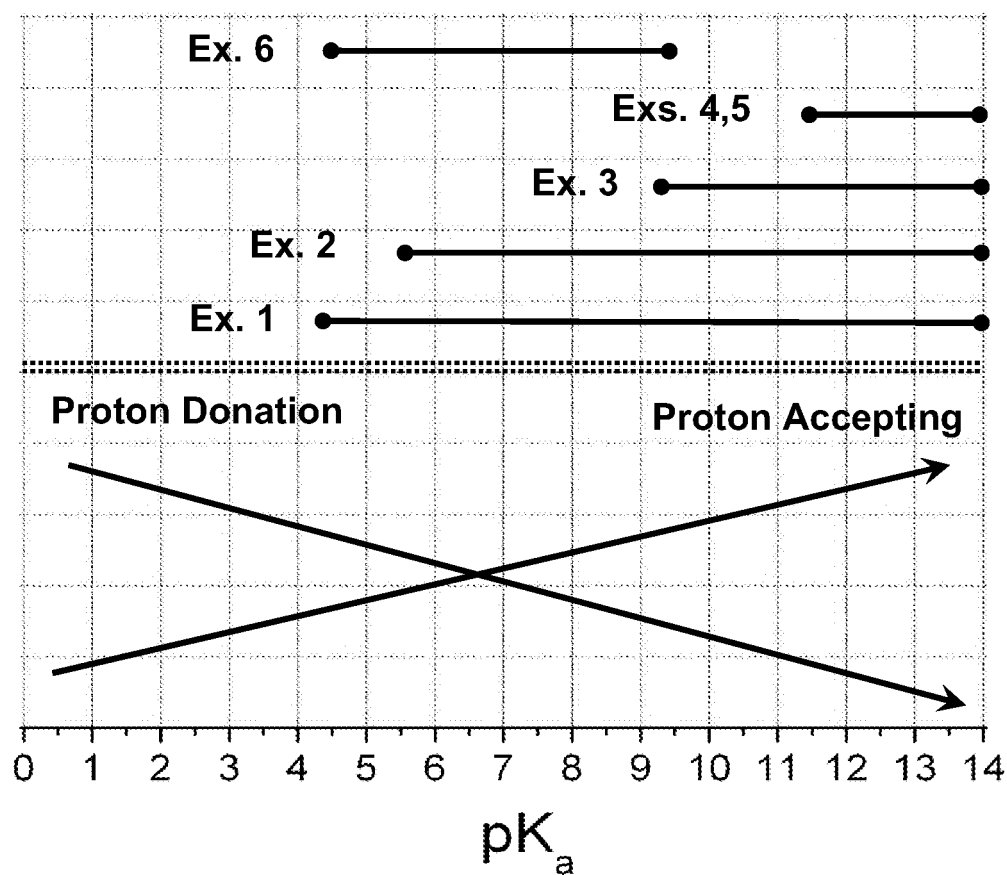


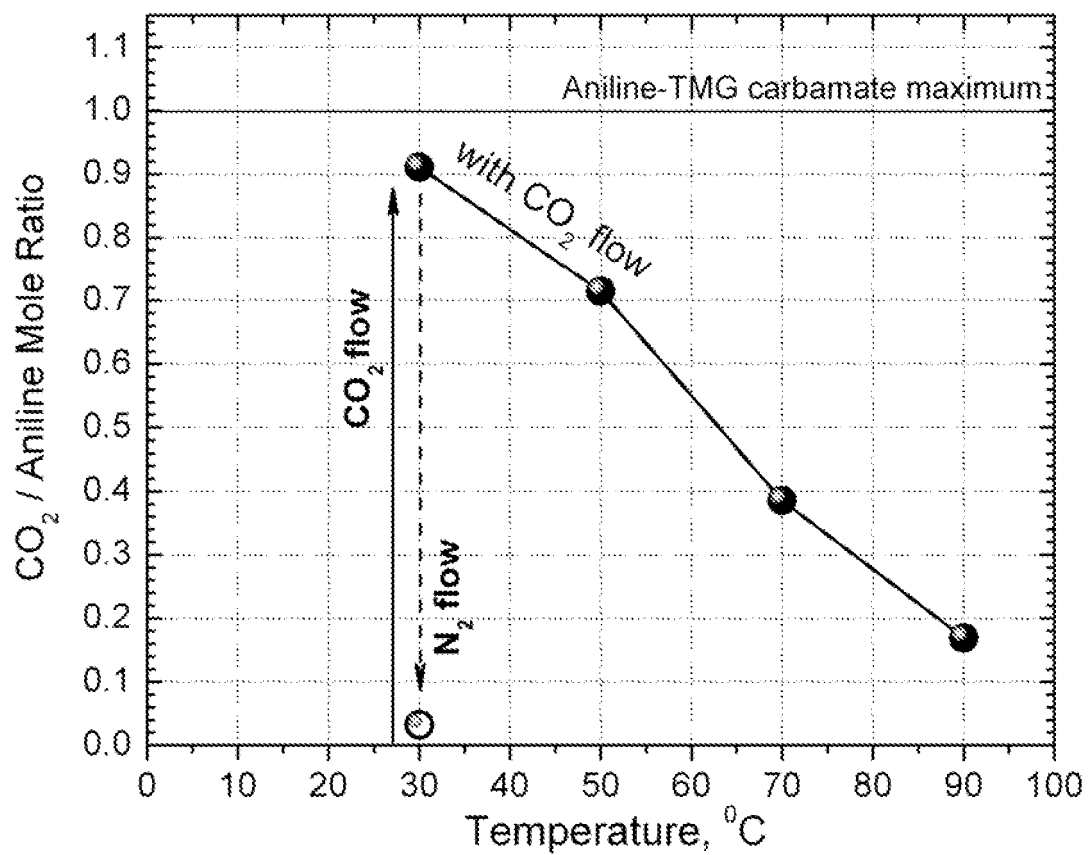
Figure 1

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**Figure 2**

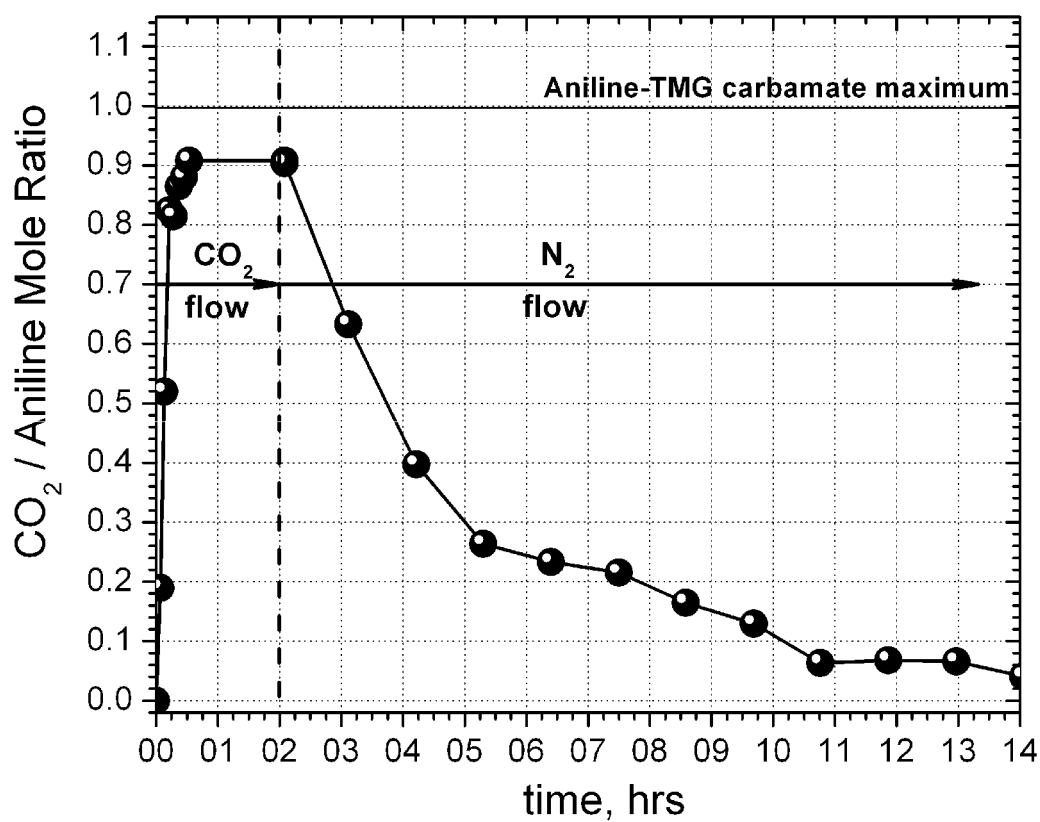
Ranges of pK_a's for selected amine/non-nucleophilic base pairs (top) and pK_a relationship to amine/base function (bottom) for Examples 1-6

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**Figure 3**

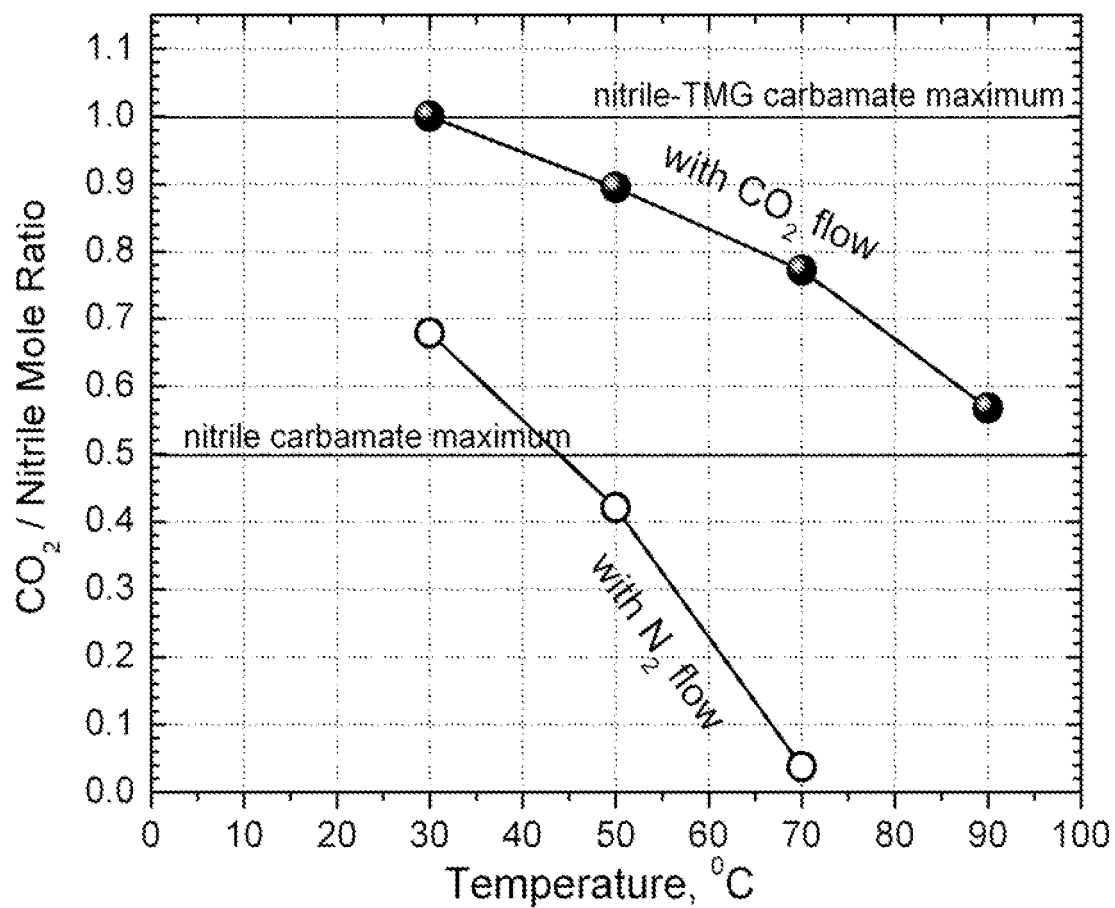
CO_2 molar uptake and desorption for the aniline/TMG mixed amine/non-nucleophilic base system

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**Figure 4**

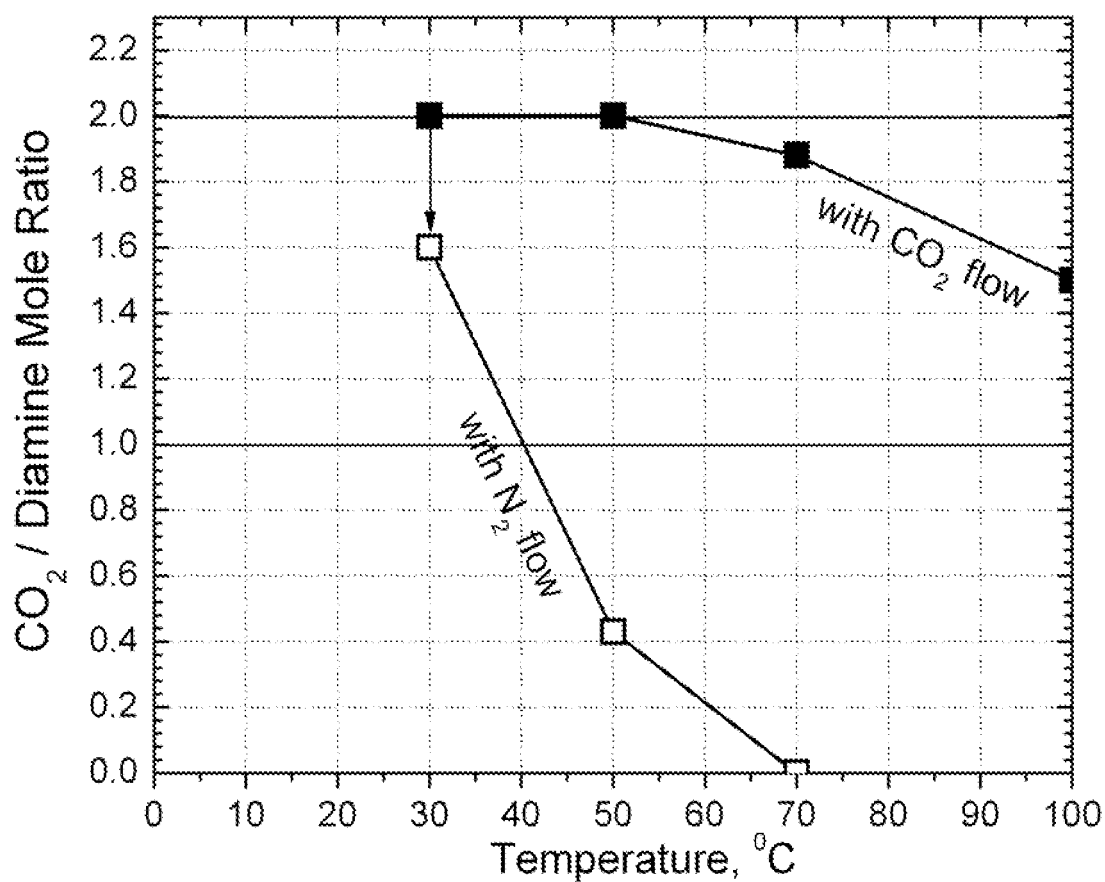
CO_2 absorption/desorption profile of aniline/TMG mixed amine/non-nucleophilic base system at room temperature

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**Figure 5**

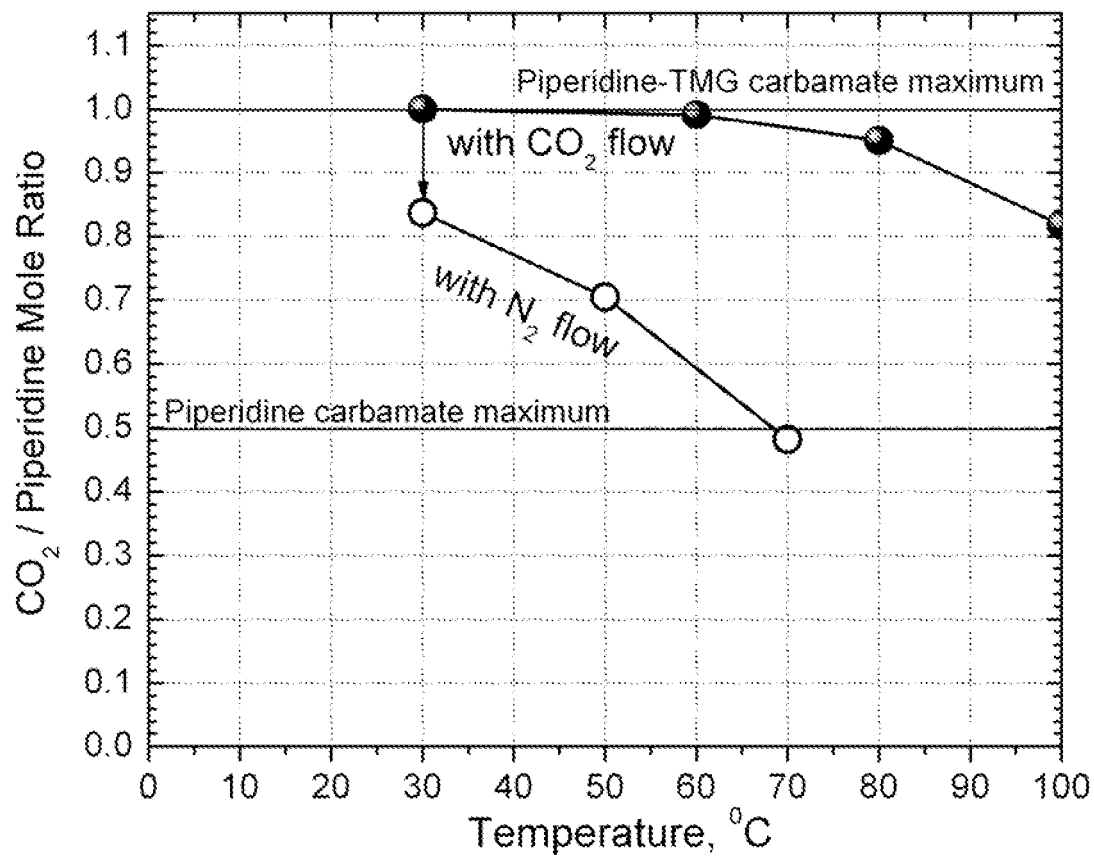
CO_2 molar uptake and desorption for the 3,3-iminodipropionitrile/TMG mixed amine/non-nucleophilic base system

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**Figure 6**

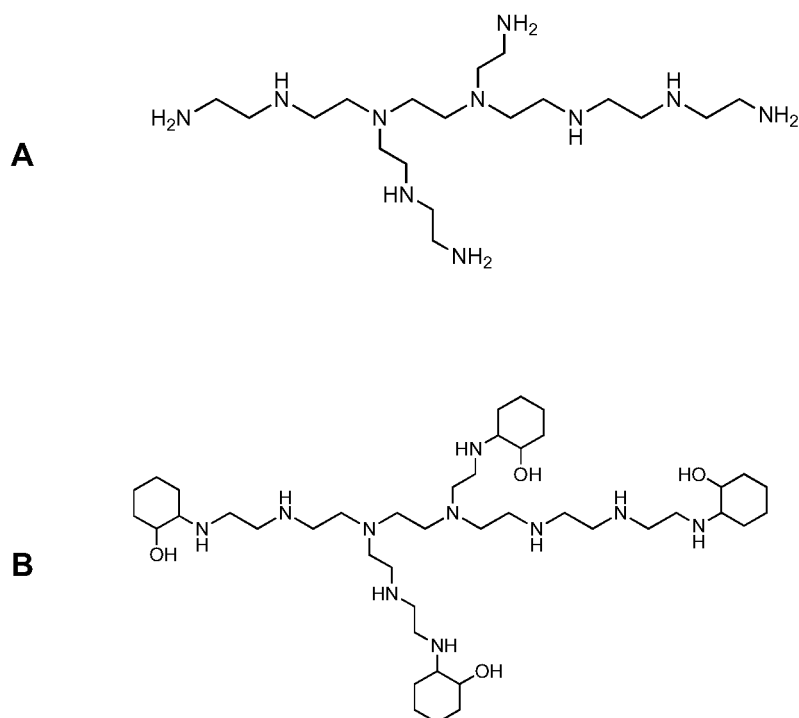
CO₂ molar uptake and desorption for the 1,5-bis(methylamino)-3-oxapentane/TMG mixed amine/non-nucleophilic base system

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**Figure 7**

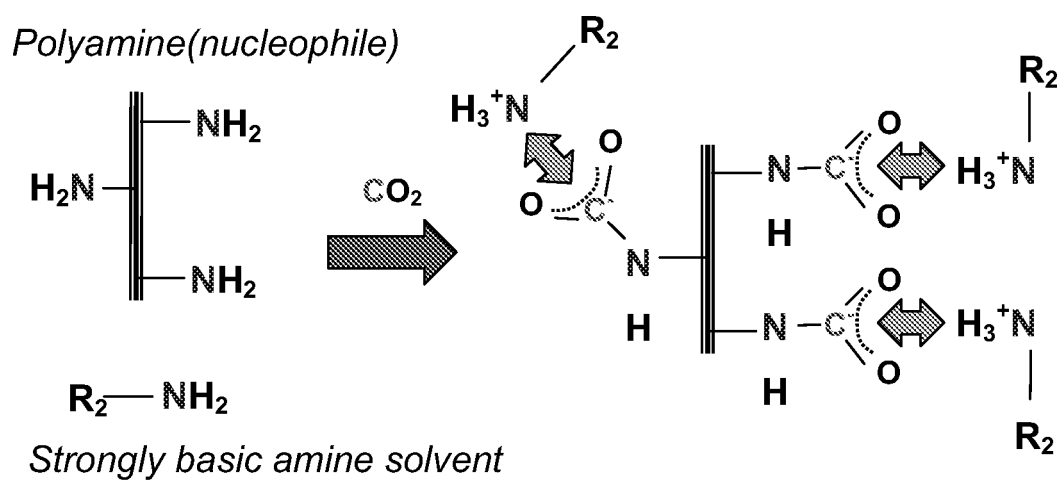
CO_2 molar uptake and desorption for the piperidine/TMG mixed amine/non-nucleophilic base system

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**Figure 8**

Schematic structures of (A) amine-rich PEI, and (B) cyclohexyl alcohol-functionalized PEI (PEI-CHO) produced by epoxylation with cyclohexene oxide.

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**Figure 9**

General concept of CO_2 reaction with multiamine molecules in strongly basic amine solvent

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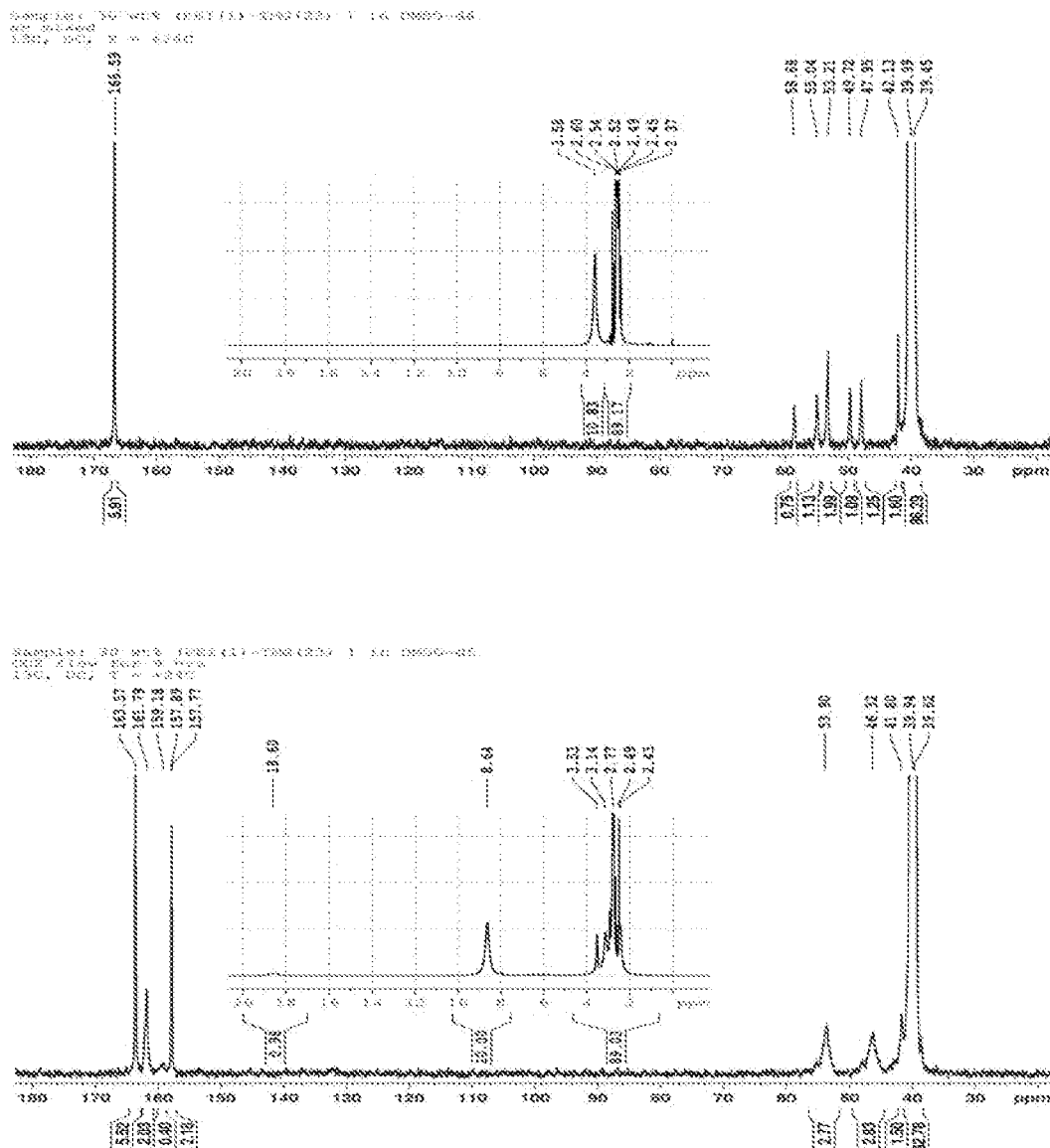


Figure 10

^{13}C NMR spectra of ~1:23 PEI/TMG mixture in DMSO-d_6 before (top) and after (bottom) reaction with CO_2 at ambient temperature/pressure

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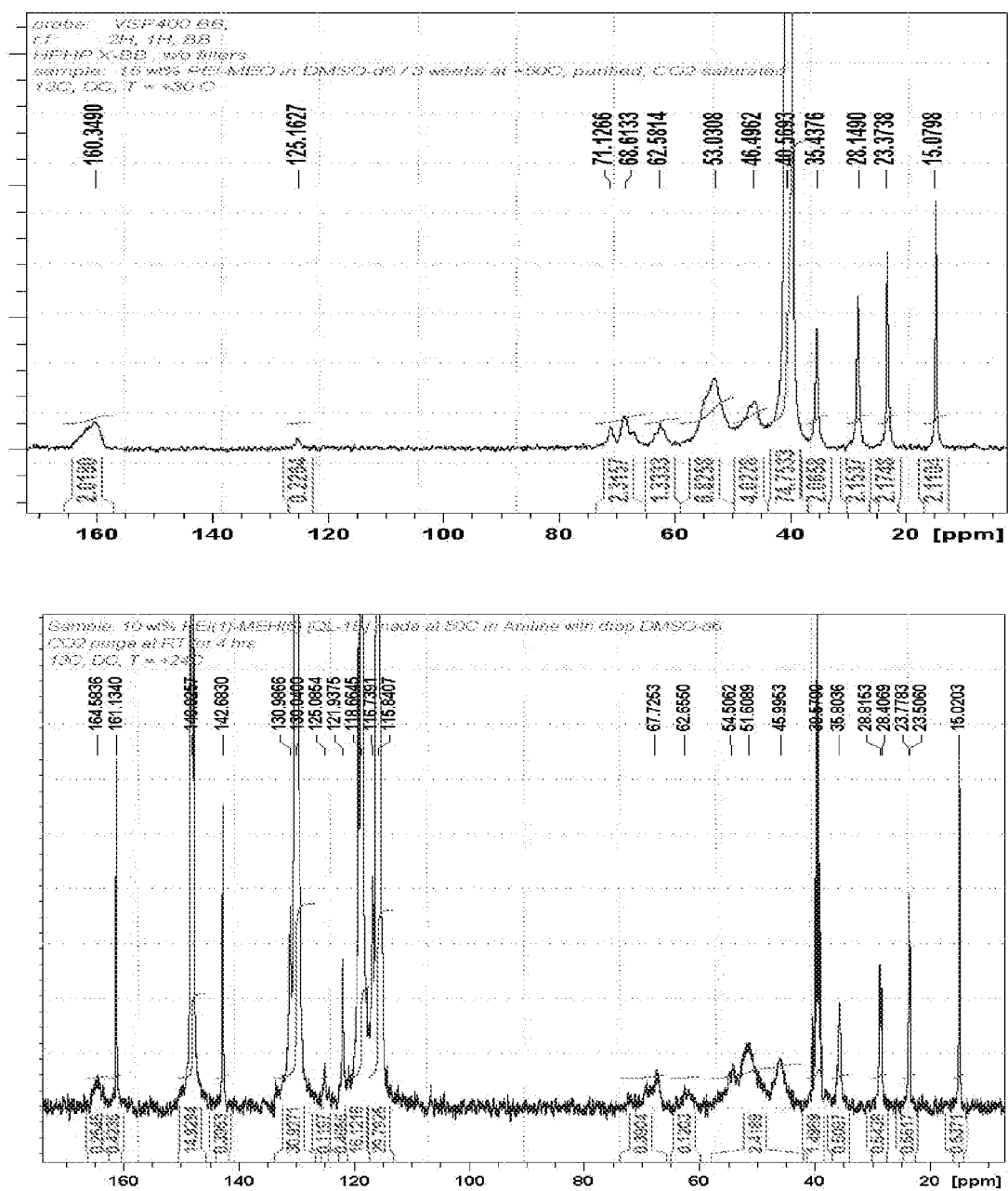


Figure 11

¹³C NMR spectra of CO₂ saturated PEI-MED polymer in DMSO-d₆ solution
 (bottom) and in aniline solution (bottom)

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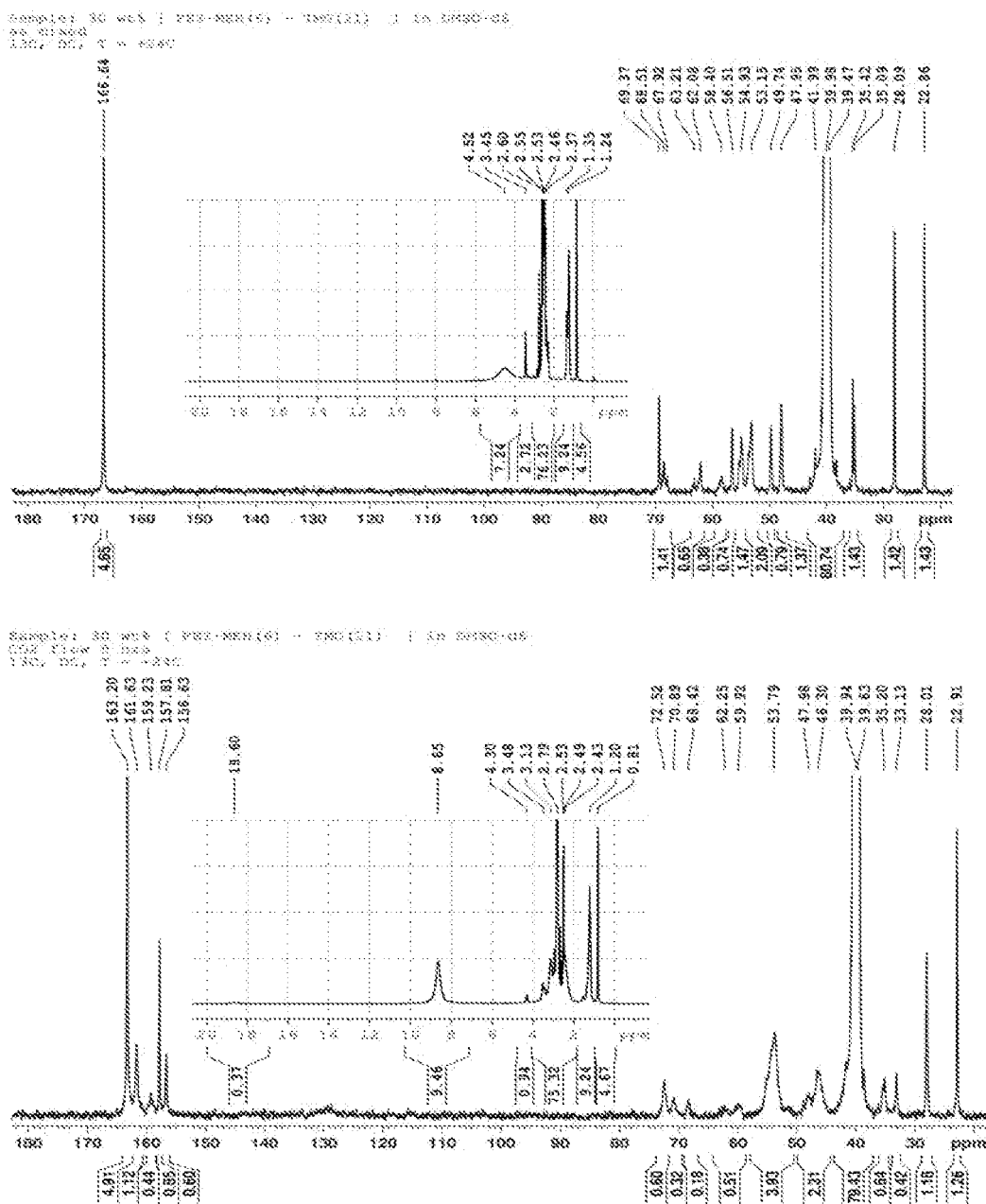


Figure 12

^{13}C NMR spectra of ~1:21 PEI-MEH/TMG mixture in DMSO- d_6 before (top), and after (bottom) reaction with CO_2 at ambient temperature/pressure

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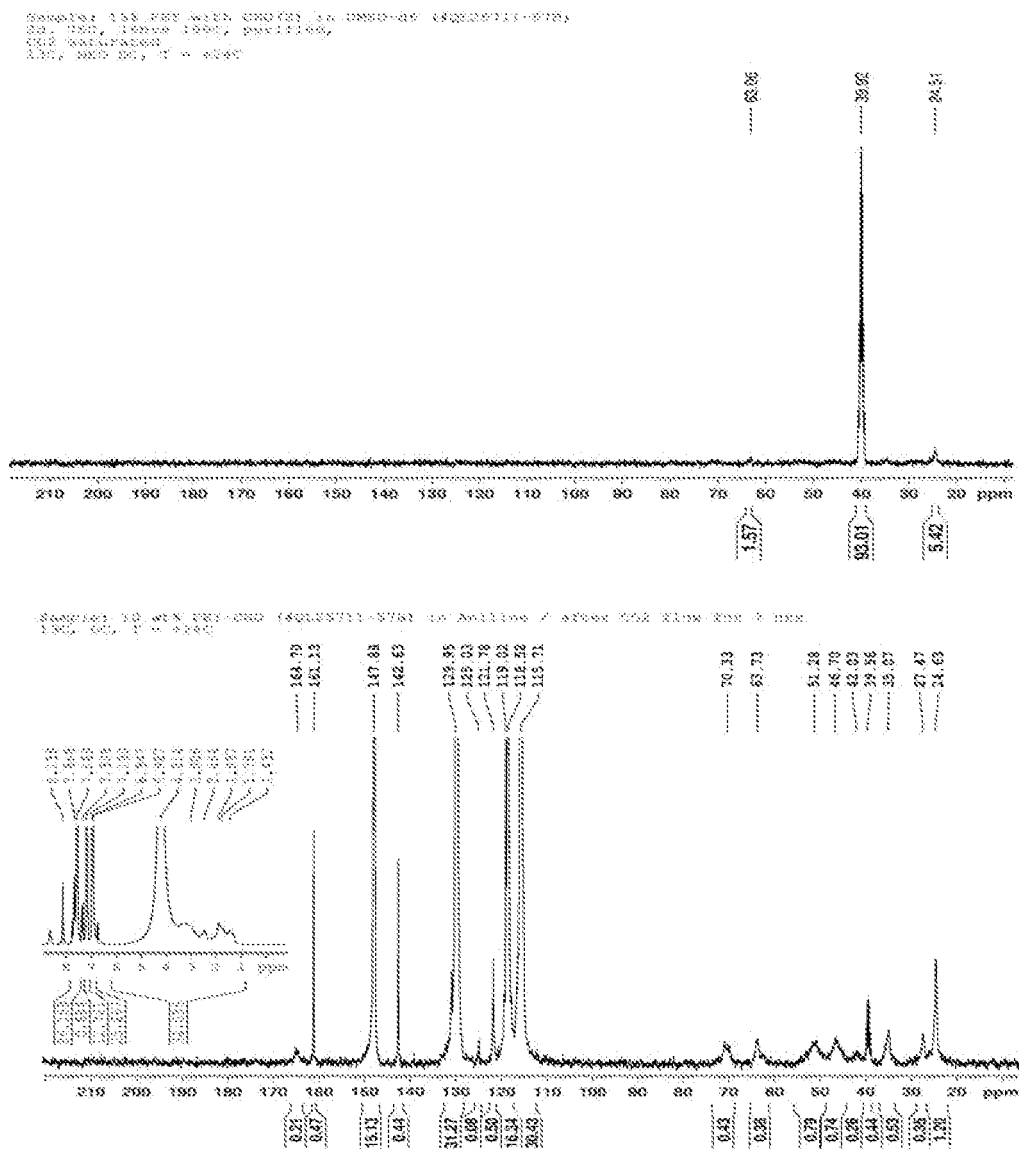


Figure 13

¹³C NMR spectra of CO₂ saturated PEI-CHO polymer in DMSO-d₆ solution (top), and in aniline solution (bottom).

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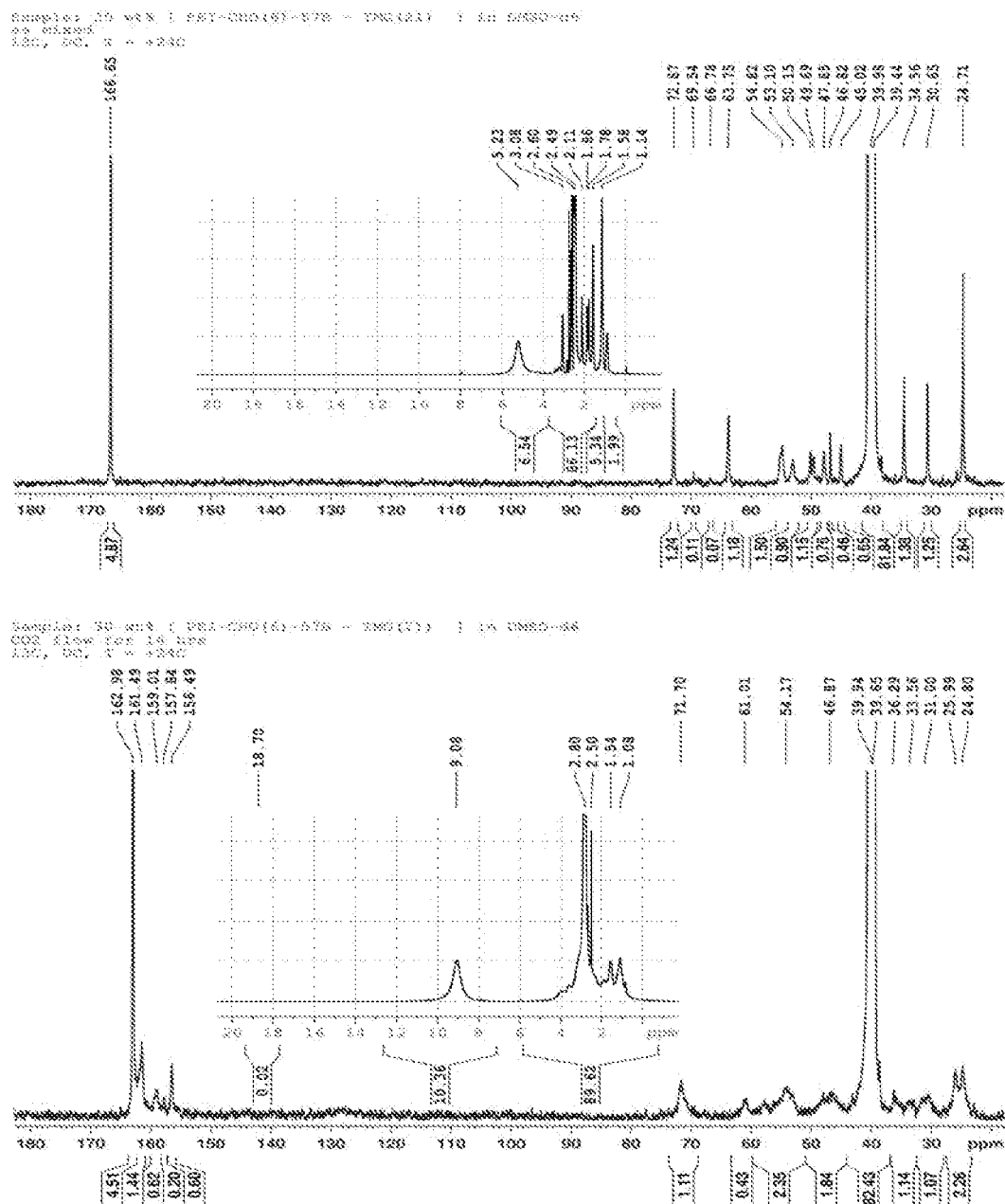
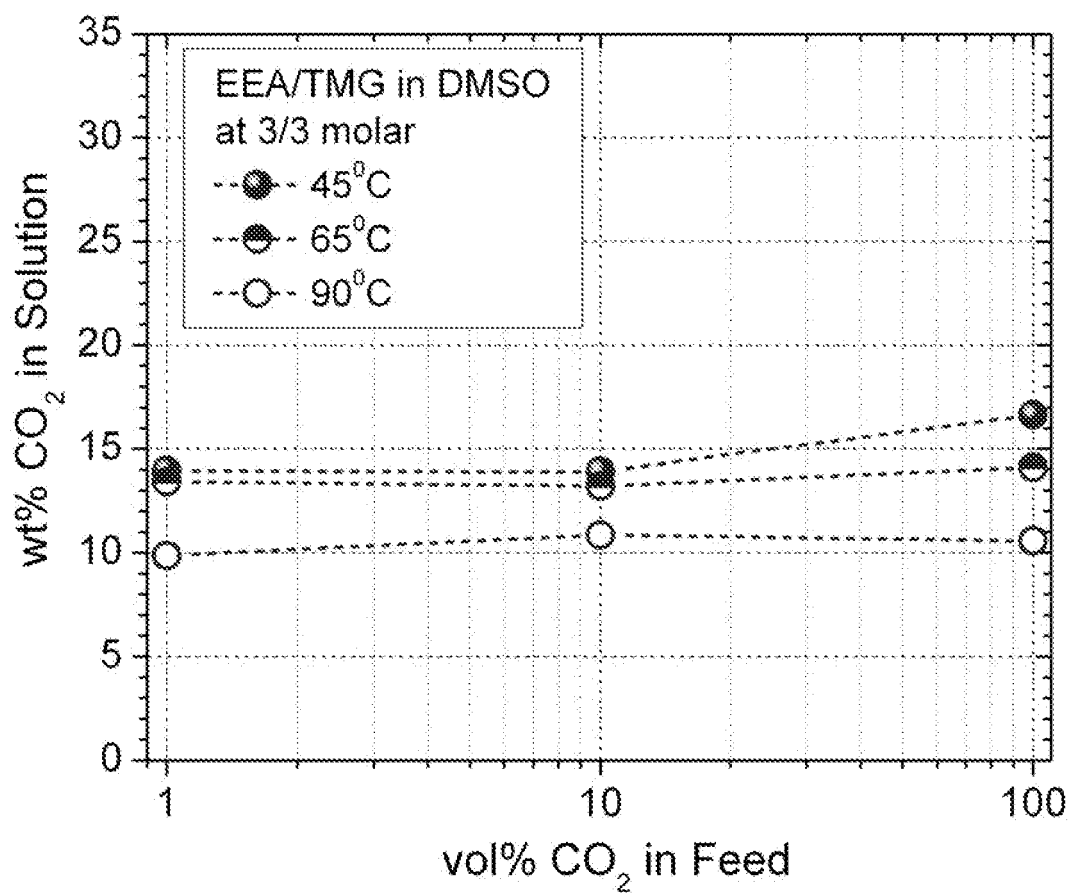


Figure 14

^{13}C NMR spectra of ~1:21 PEI-CHO/TMG mixture in DMSO- d_6 before (top) and after (bottom) reaction with CO_2 at ambient temperature/pressure

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**Figure 15**

Vapor-Liquid Equilibrium of EEA/TMG with CO₂ (Example 13).