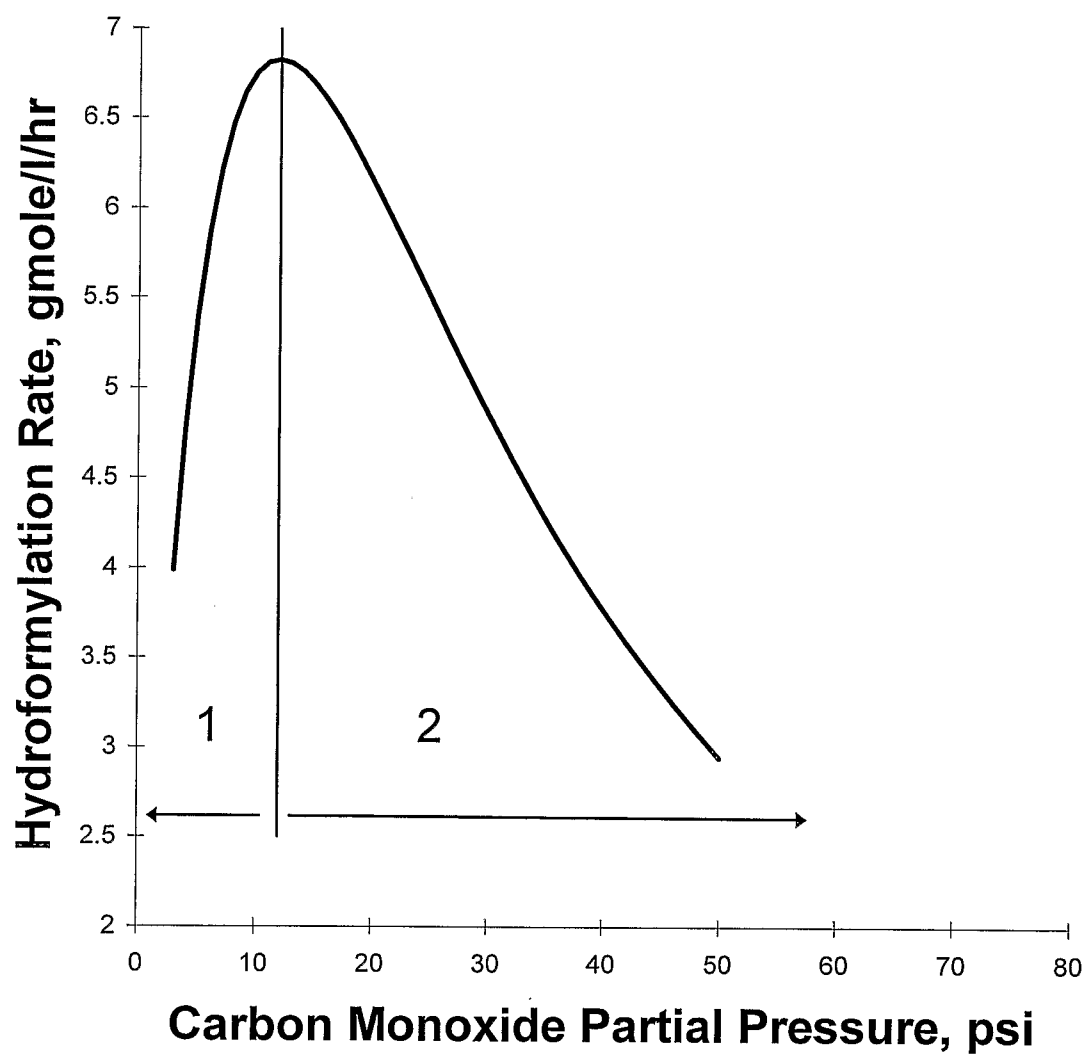


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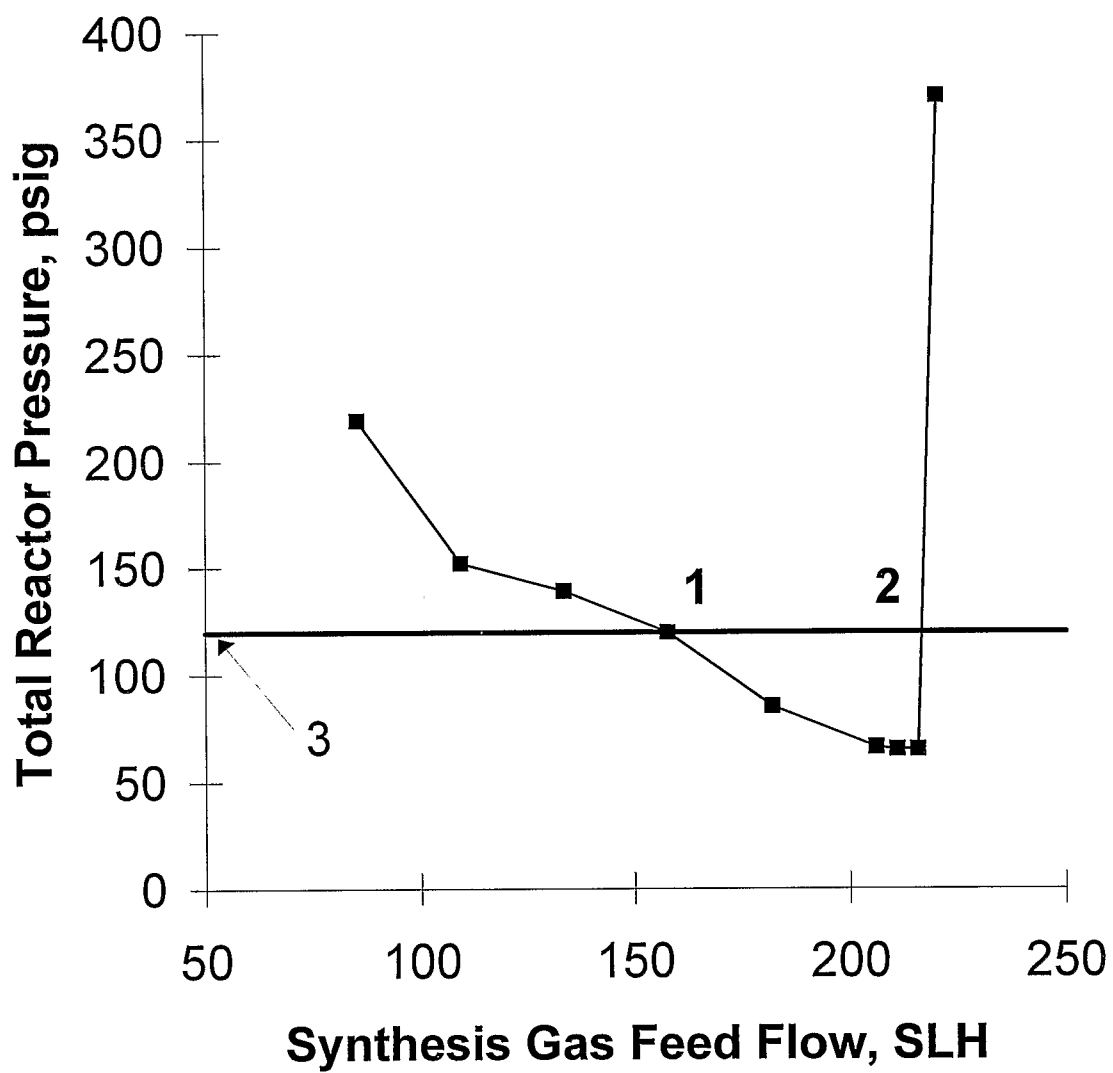
FIG 1



1. Positive order region
2. Negative or inverse order region

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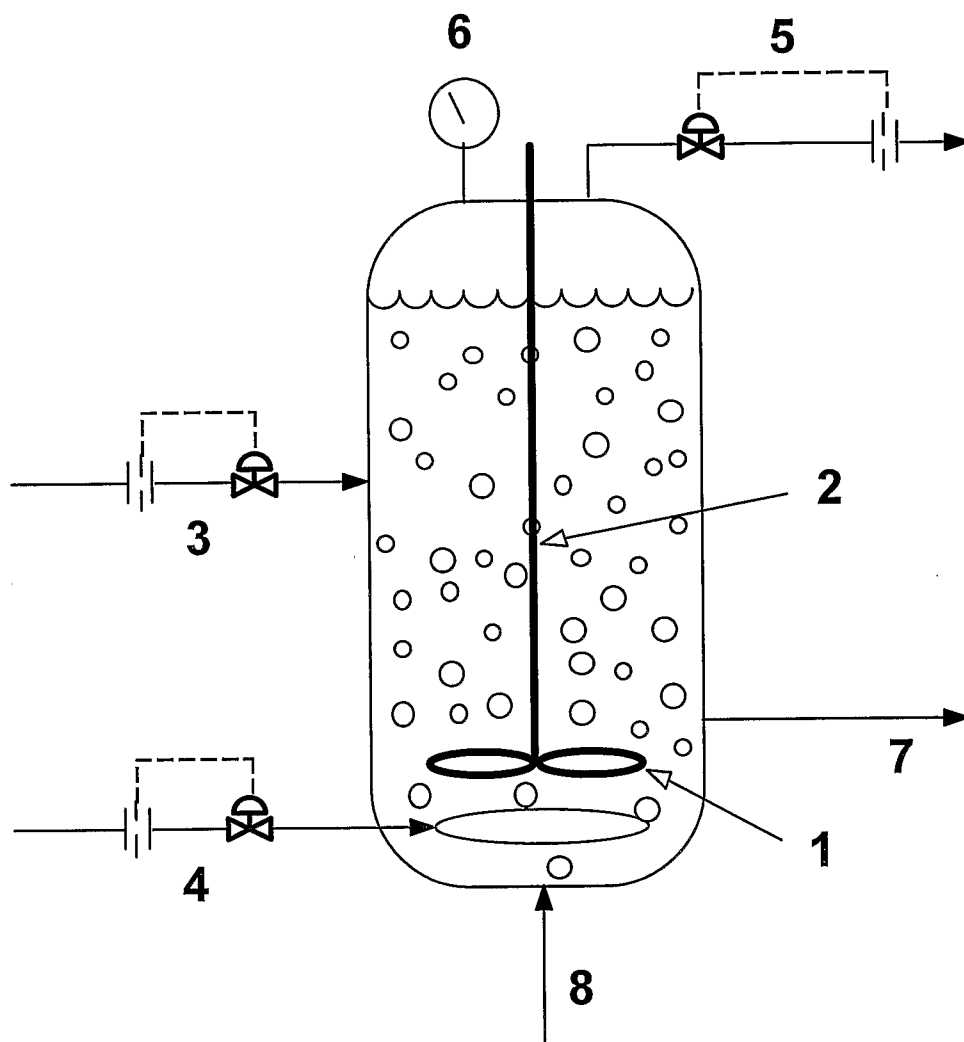
FIG 2



1. Minimum base synthesis gas feed flow rate
2. Maximum base synthesis gas feed flow rate
3. Target total reactor pressure

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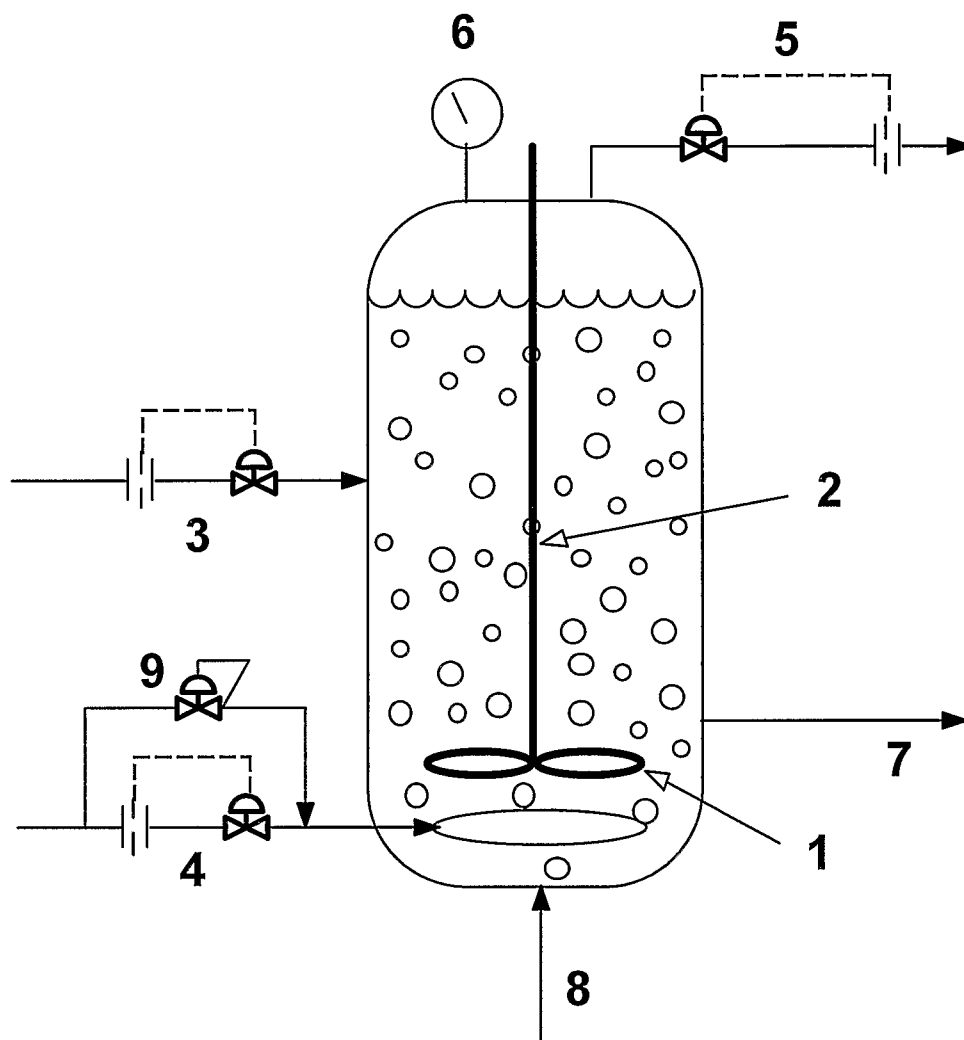
FIG 3



1. Impeller
2. Impeller shaft
3. Propylene feed line and feed flow control
4. Syngas feed line, sparger and feed flow controller
5. Vent flow line and vent flow control
6. Total pressure sensor
7. Exit line for product solution/catalyst to product recovery system
8. Feed line for catalyst returned from product recovery system

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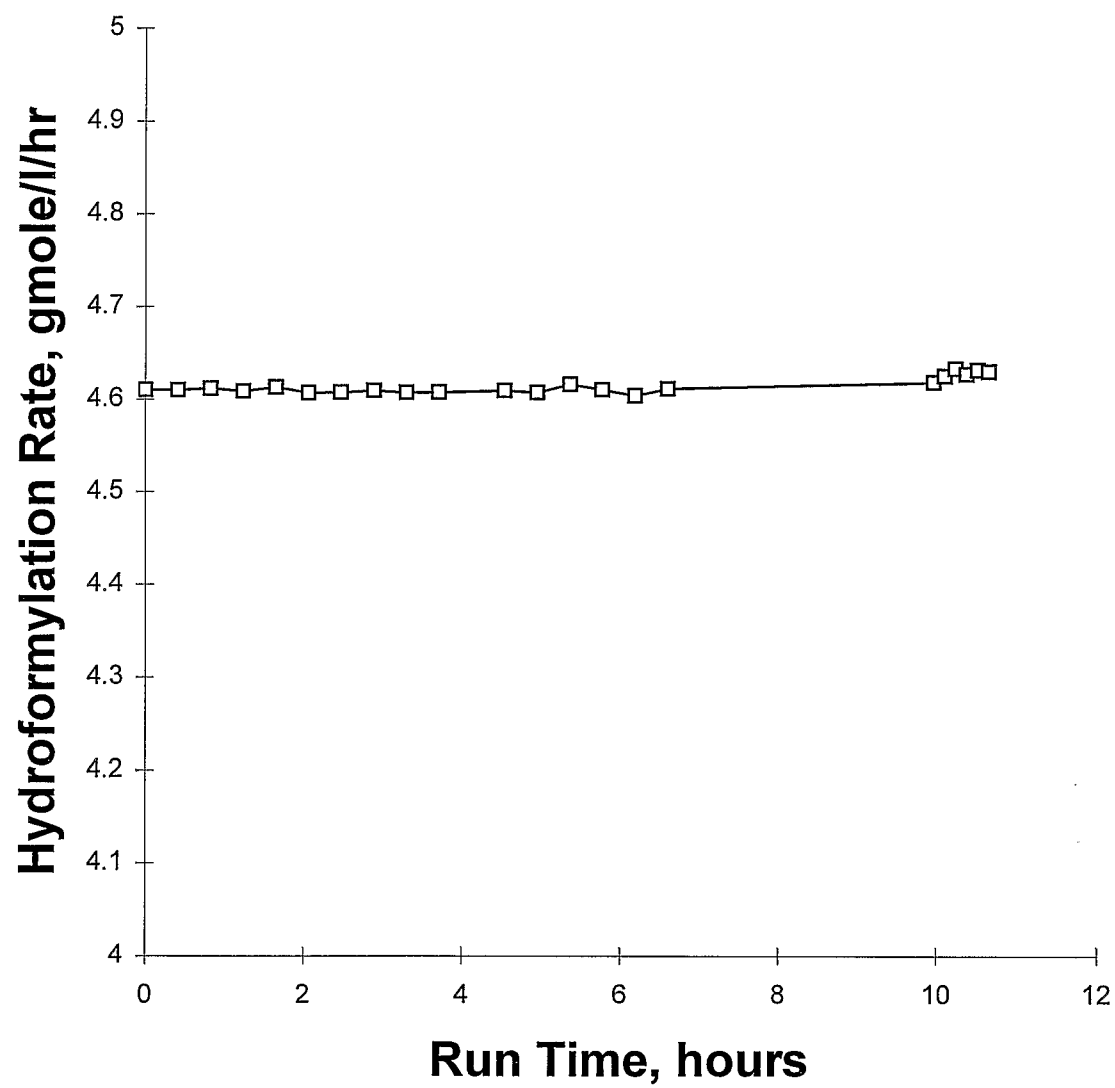
FIG 4



1. Impeller
2. Impeller shaft
3. Propylene feed line and feed flow control
4. Syngas feed line, sparger and feed flow controller
5. Vent flow line and vent flow control
6. Total pressure sensor
7. Exit line for product solution/catalyst to product recovery system
8. Feed line for catalyst returned from product recovery system
9. Reactor total pressure control

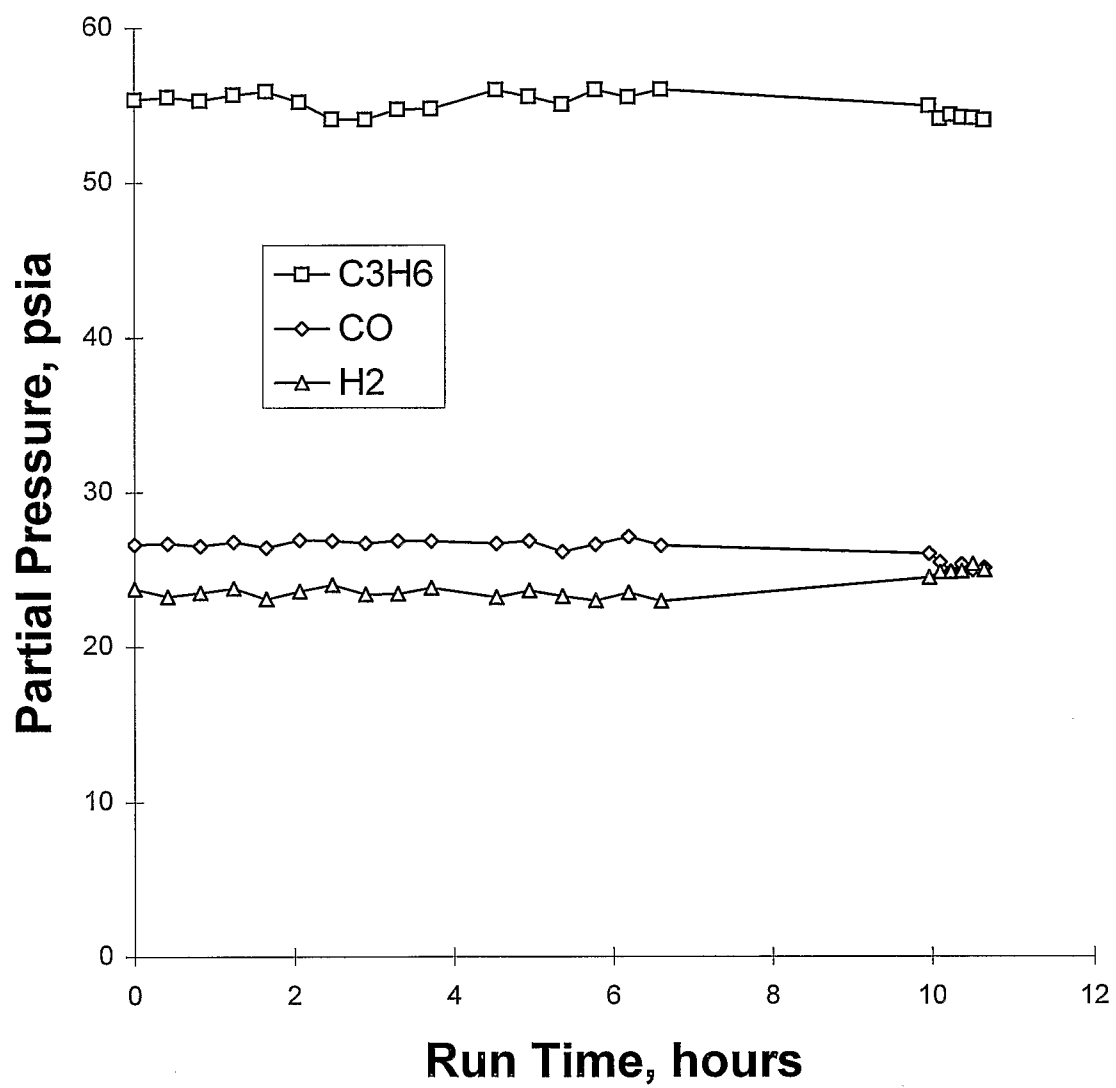
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FIG 5



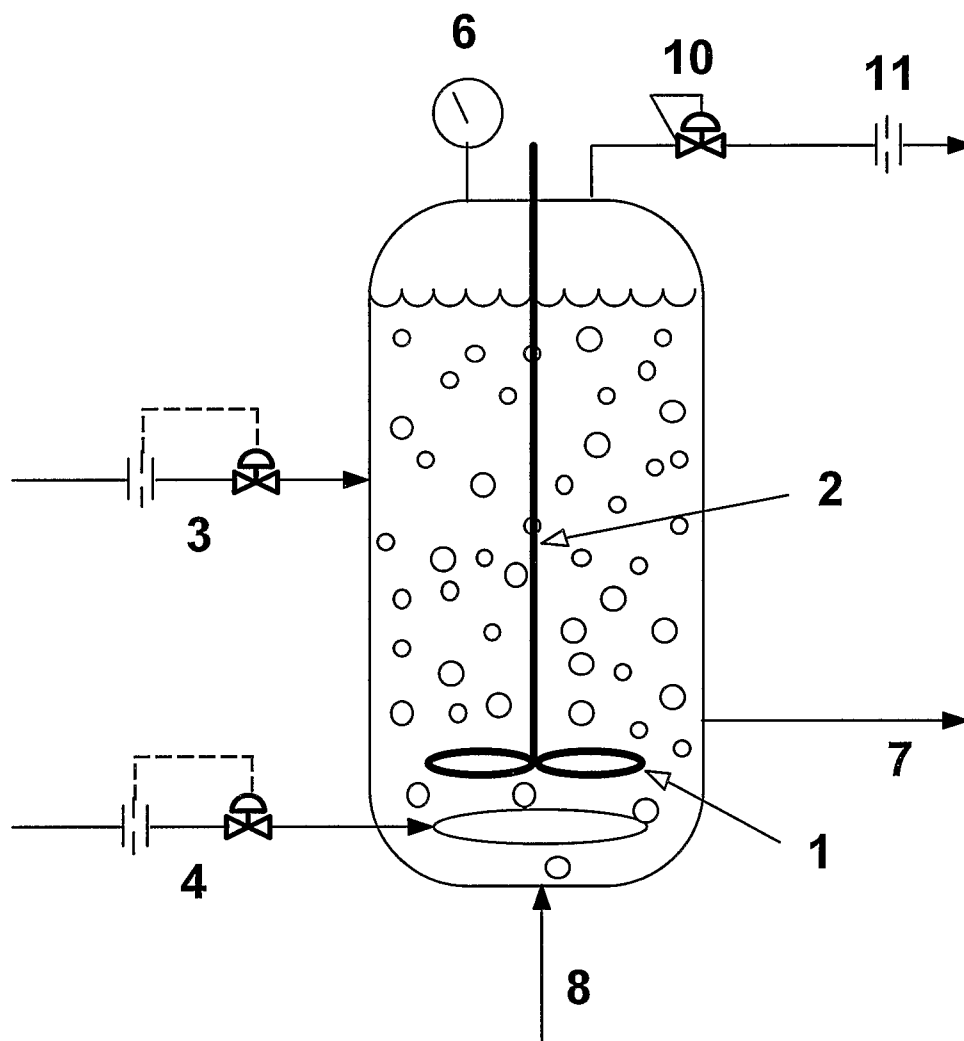
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FIG 6



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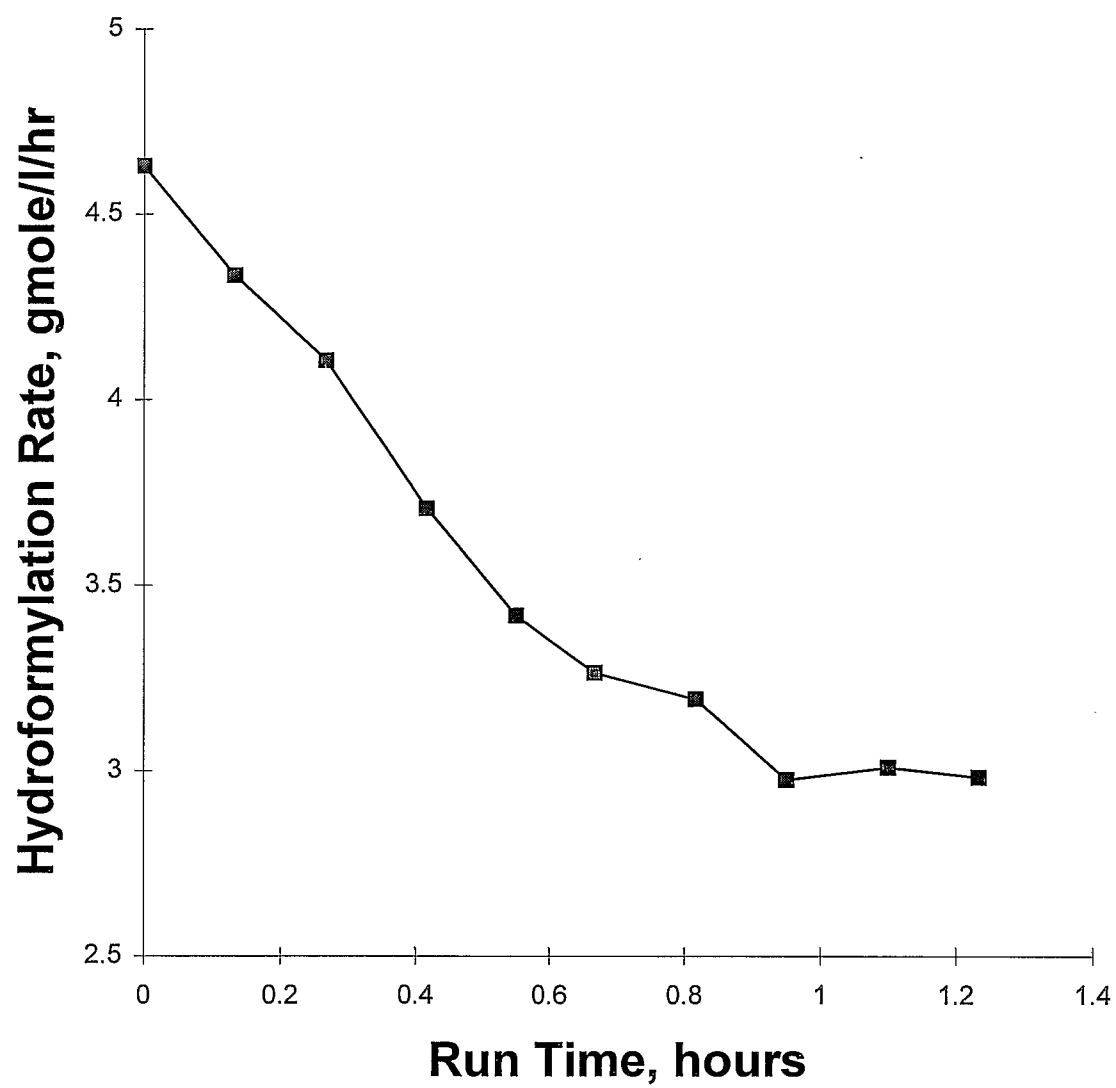
FIG 7



1. Impeller
2. Impeller shaft
3. Propylene feed line and feed flow control
4. Syngas feed line, sparger and feed flow controller
6. Total pressure sensor
7. Exit line for product solution/catalyst to product recovery system
8. Feed line for catalyst returned from product recovery system
10. Reactor total pressure control
11. Reactor vent flow sensor

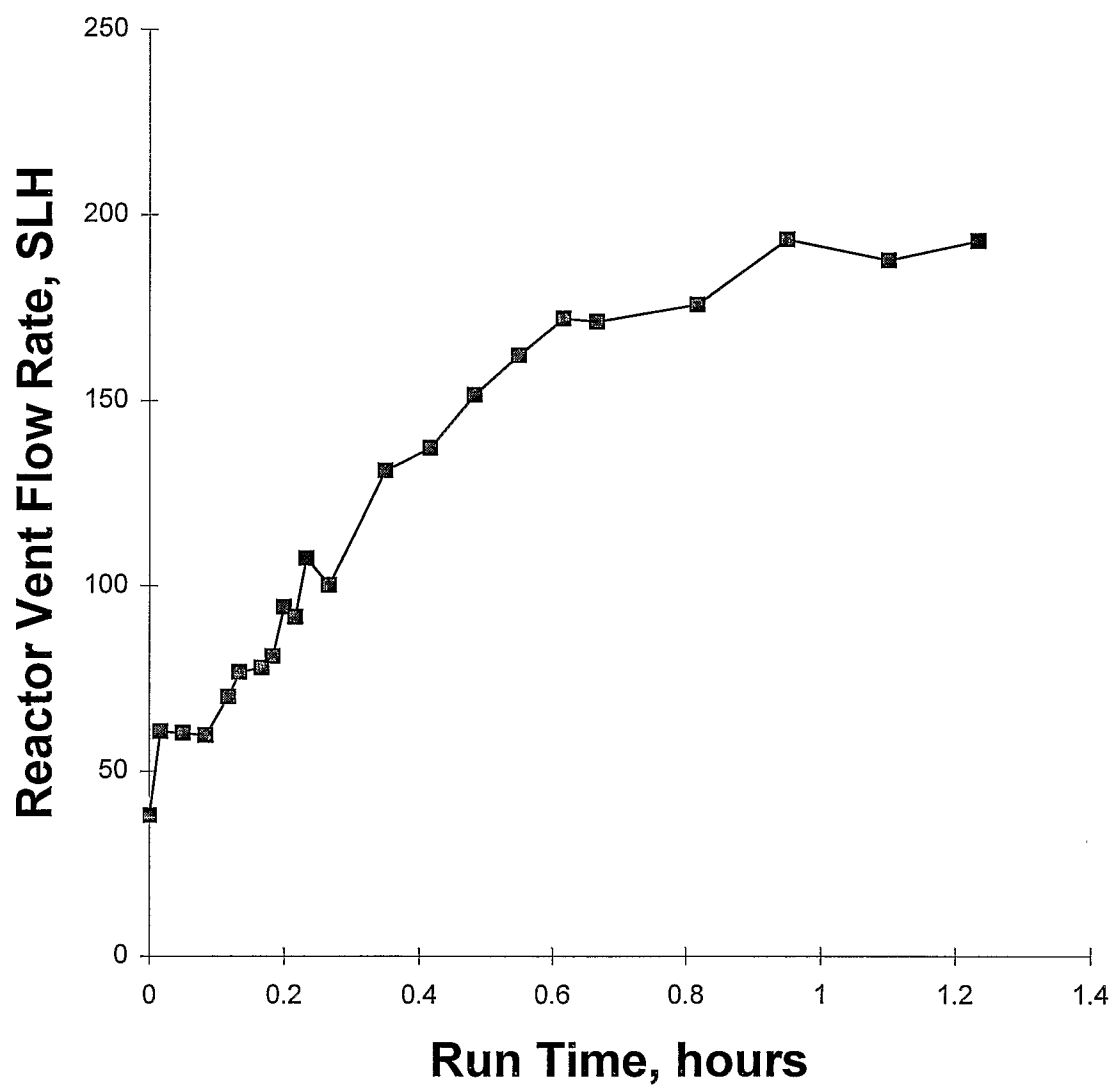
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FIG 8



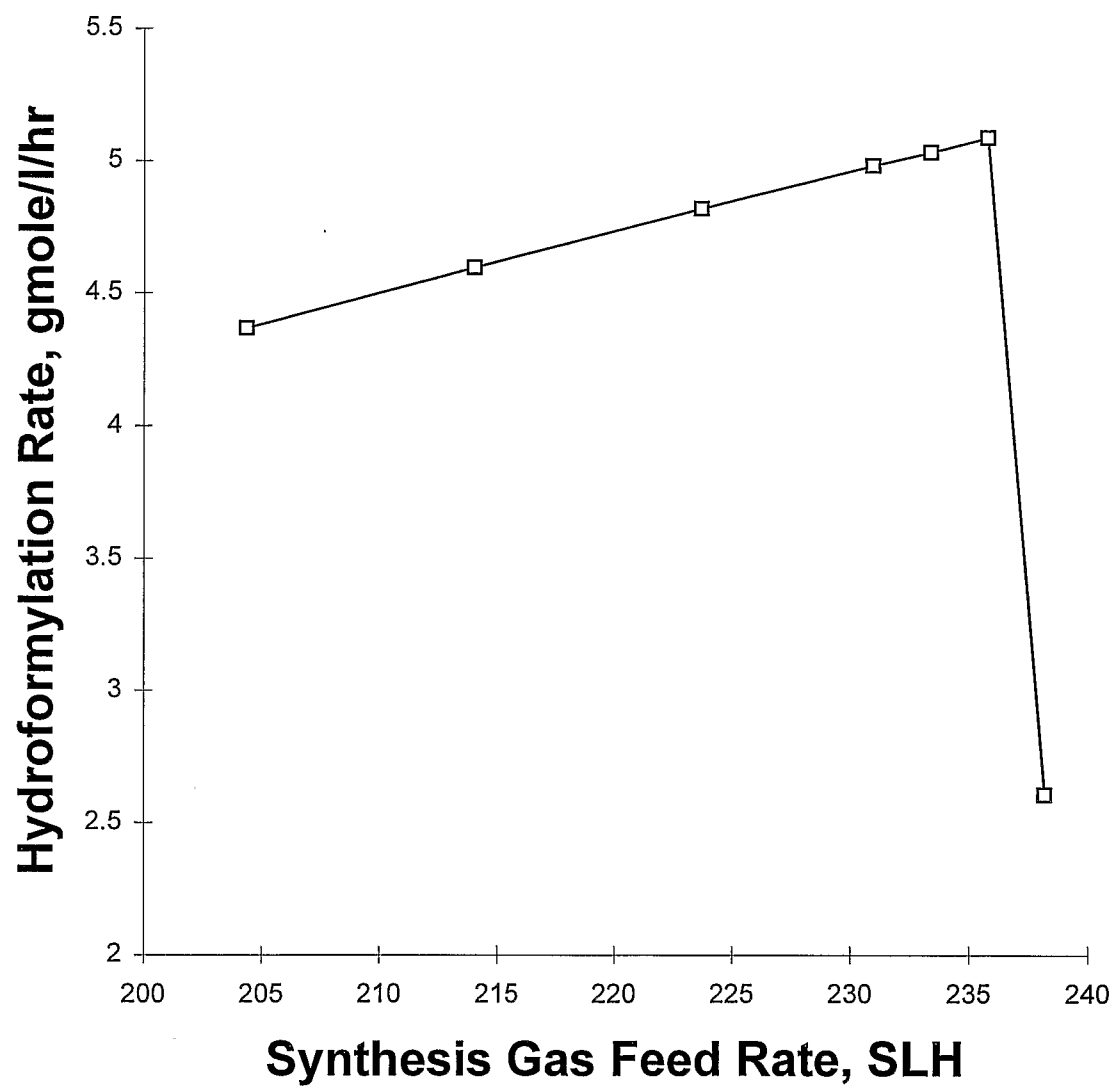
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FIG 9



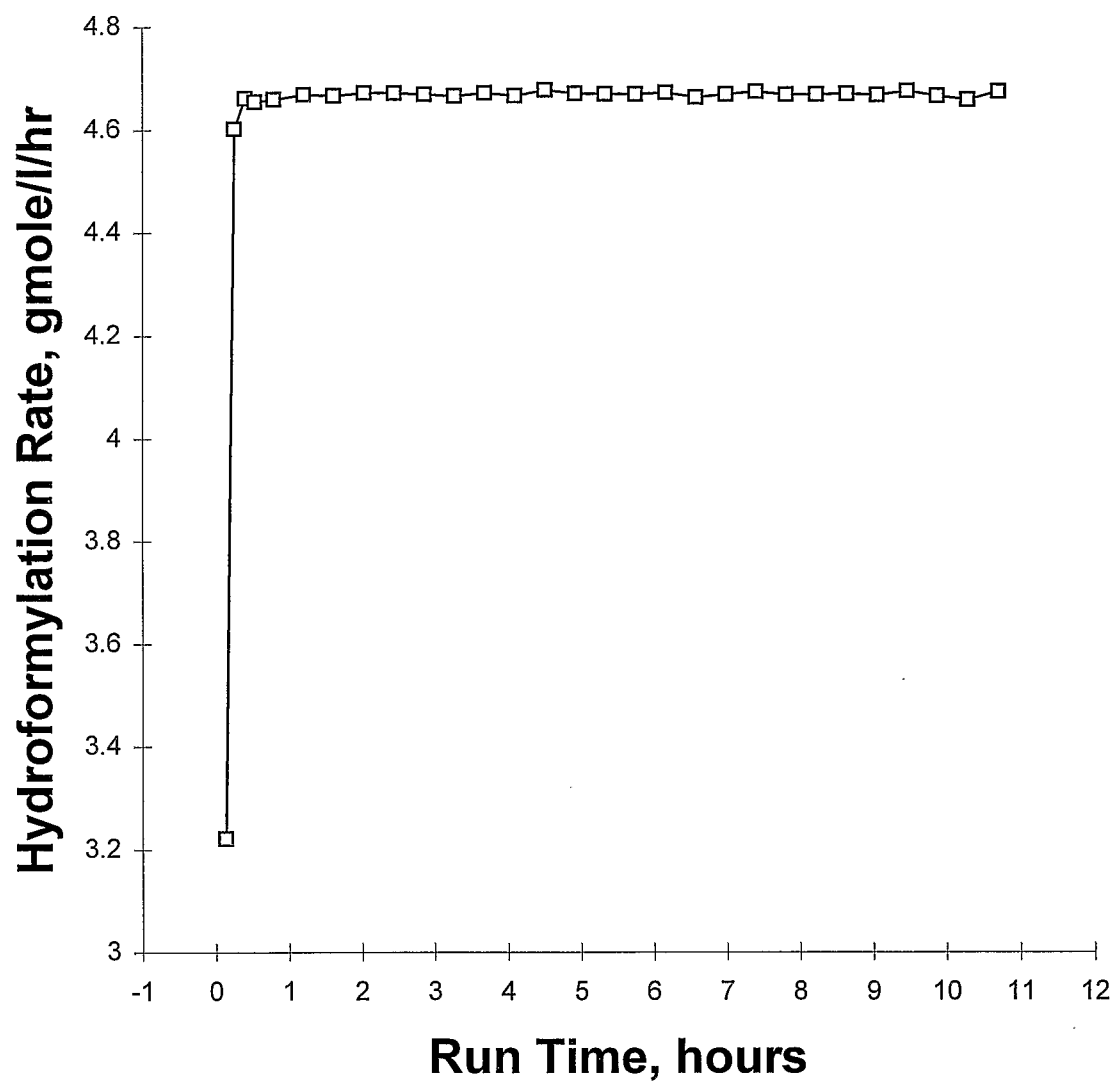
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FIG 10



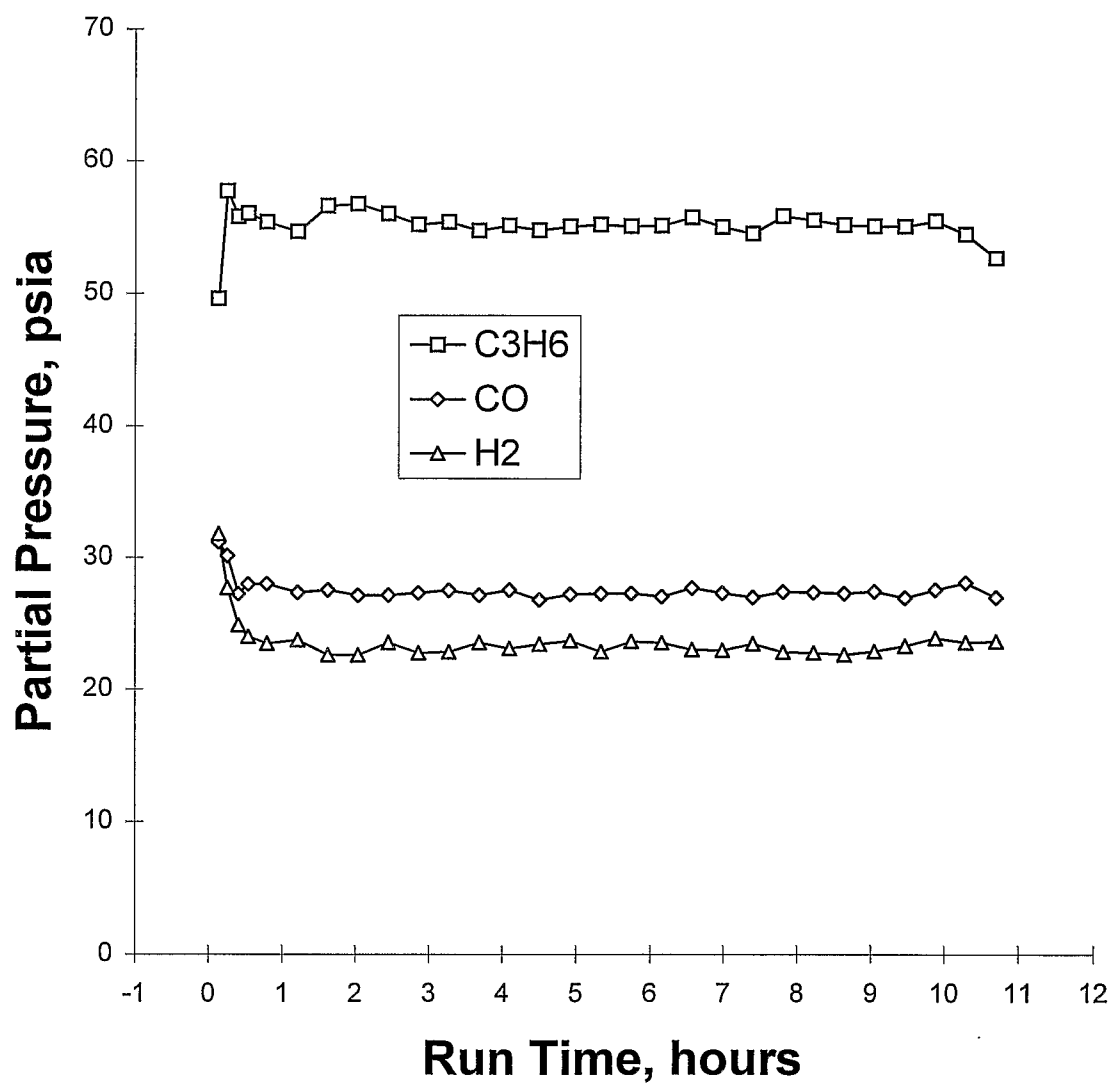
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FIG 11



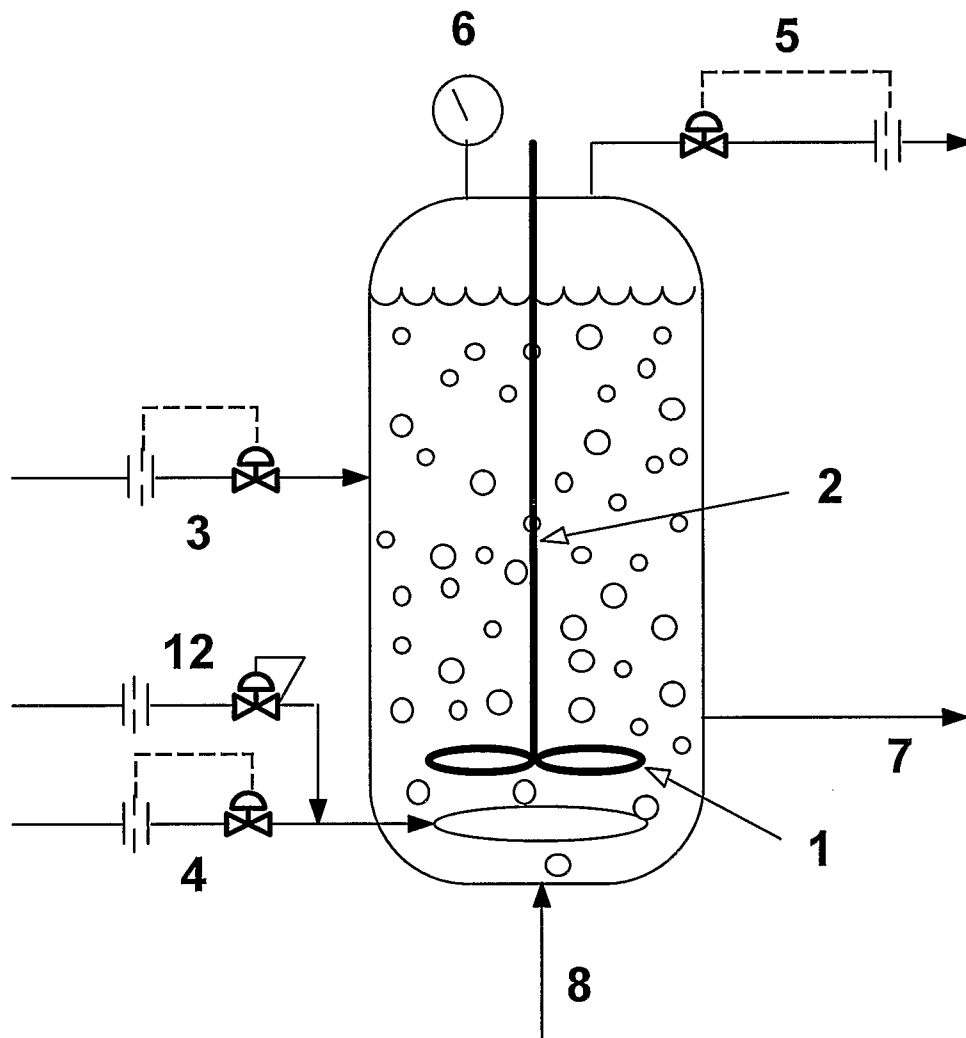
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FIG 12



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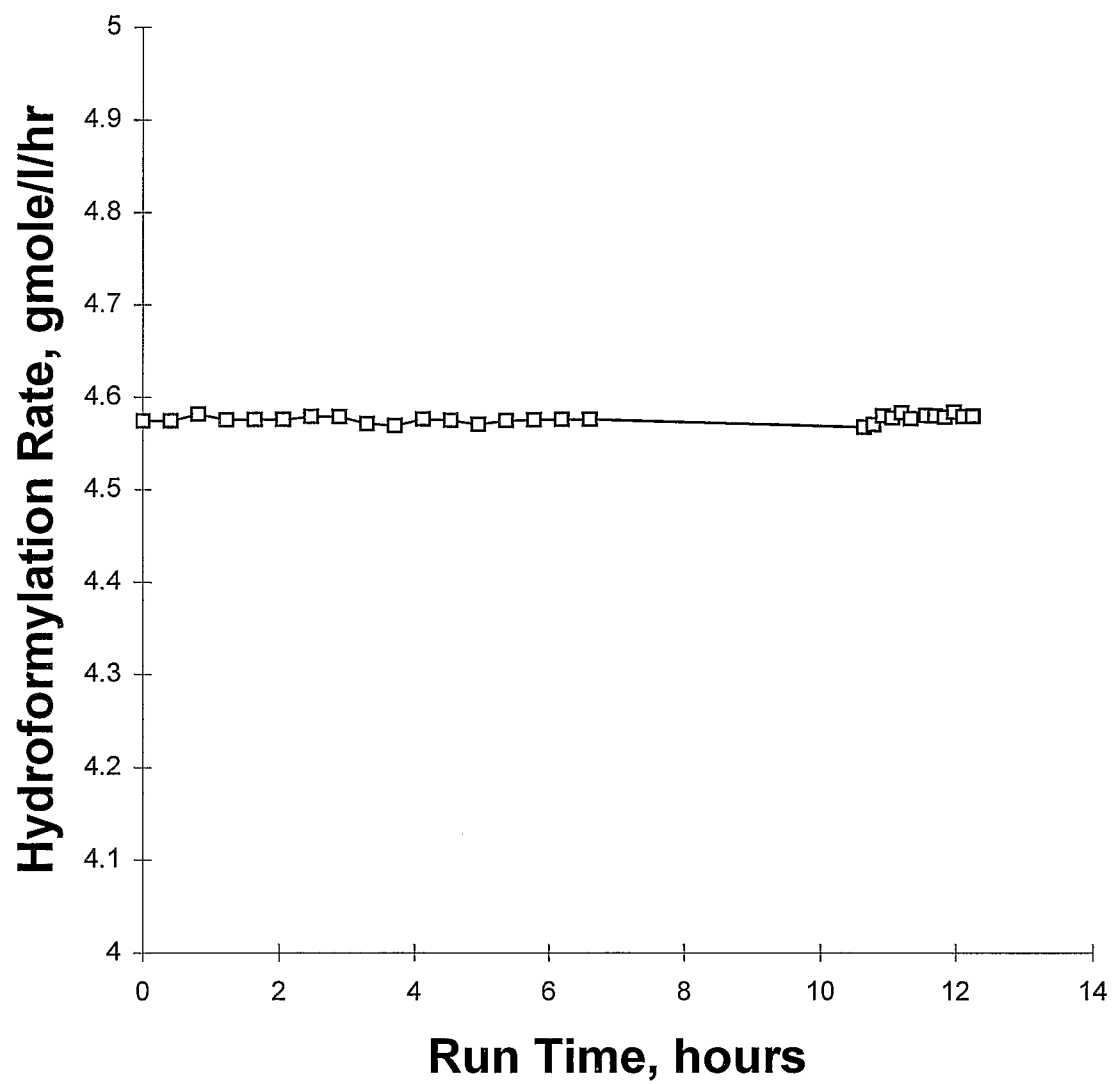
FIG 13



1. Impeller
2. Impeller shaft
3. Propylene feed line and feed flow control
4. Syngas feed line, sparger and feed flow controller
5. Vent flow line and vent flow control
6. Total pressure sensor
7. Exit line for product solution/catalyst to product recovery system
8. Feed line for catalyst returned from product recovery system
12. Carbon monoxide feed controller for total reactor pressure control

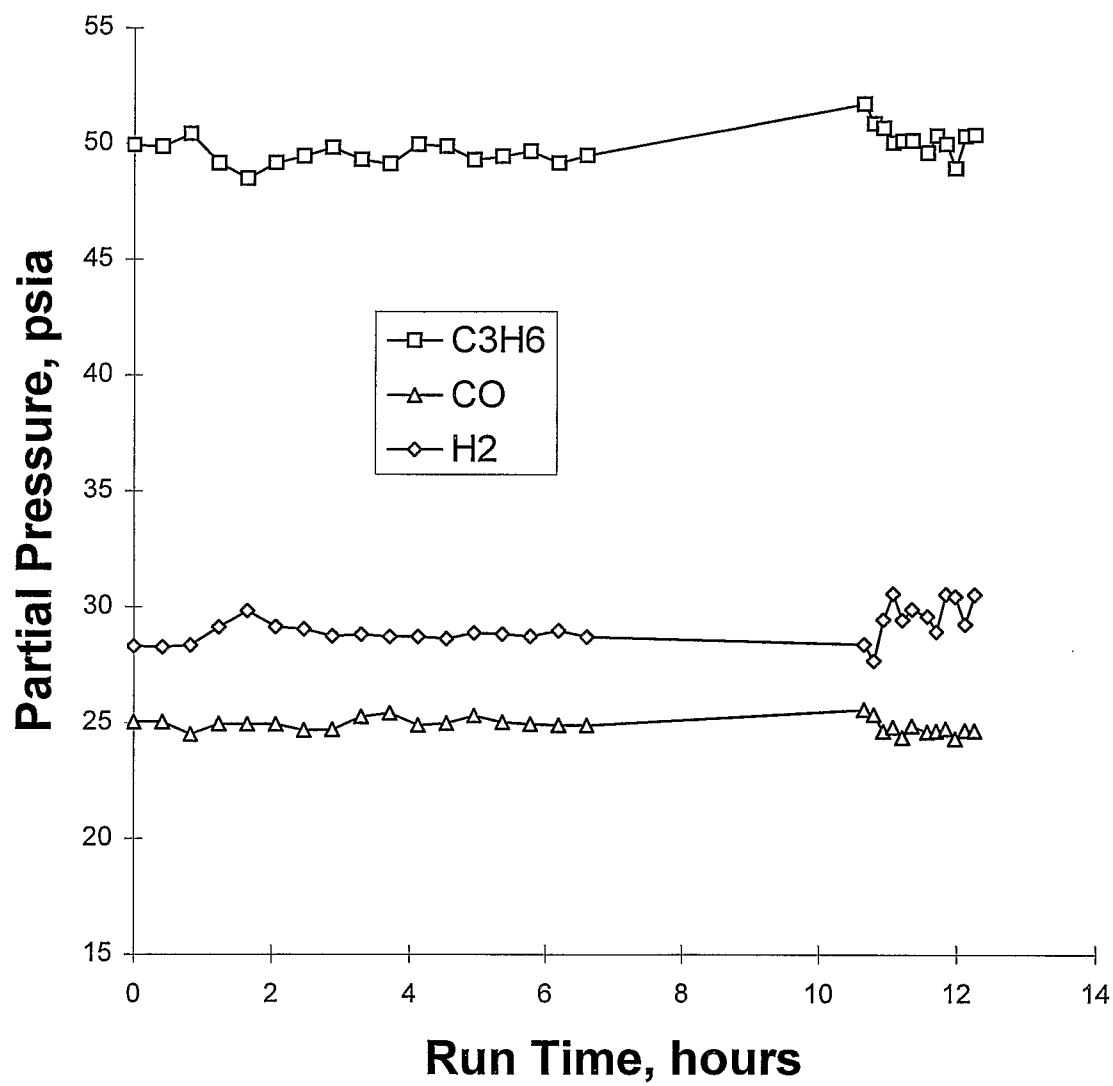
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FIG 14



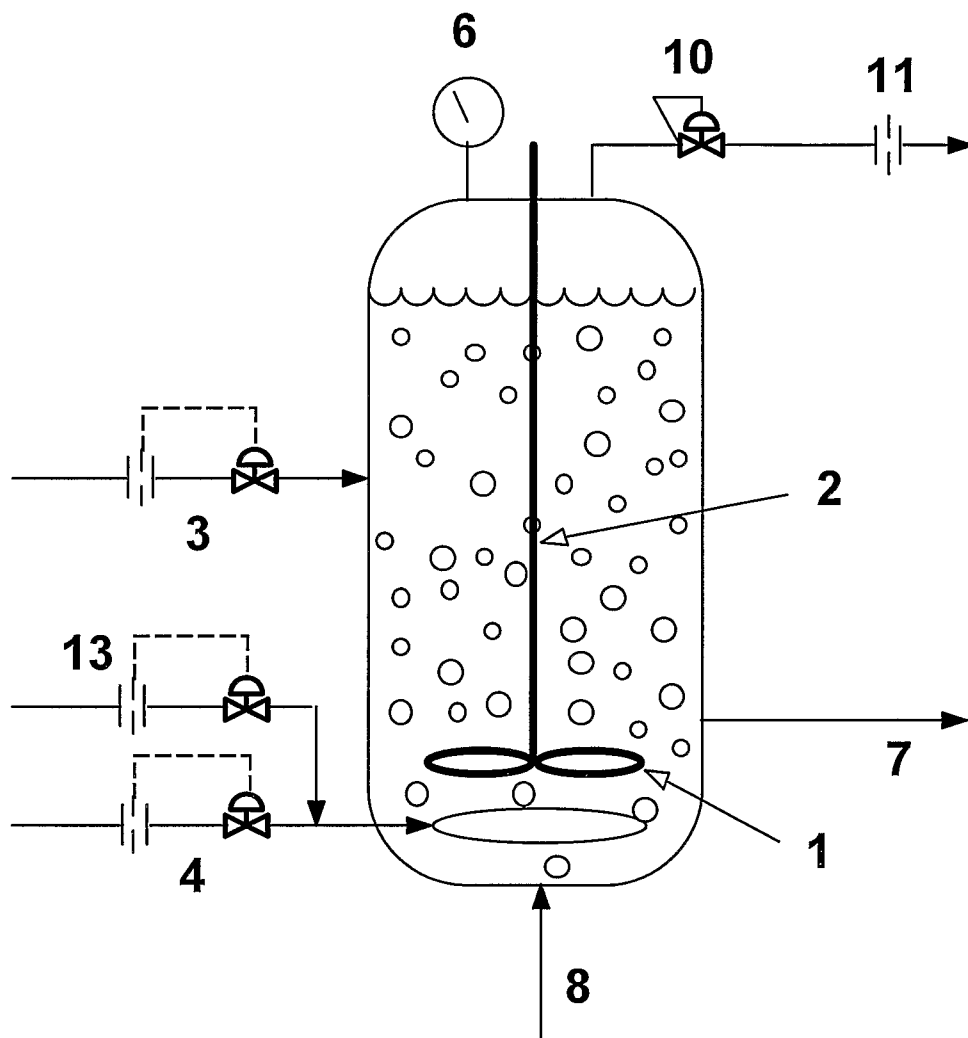
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FIG 15



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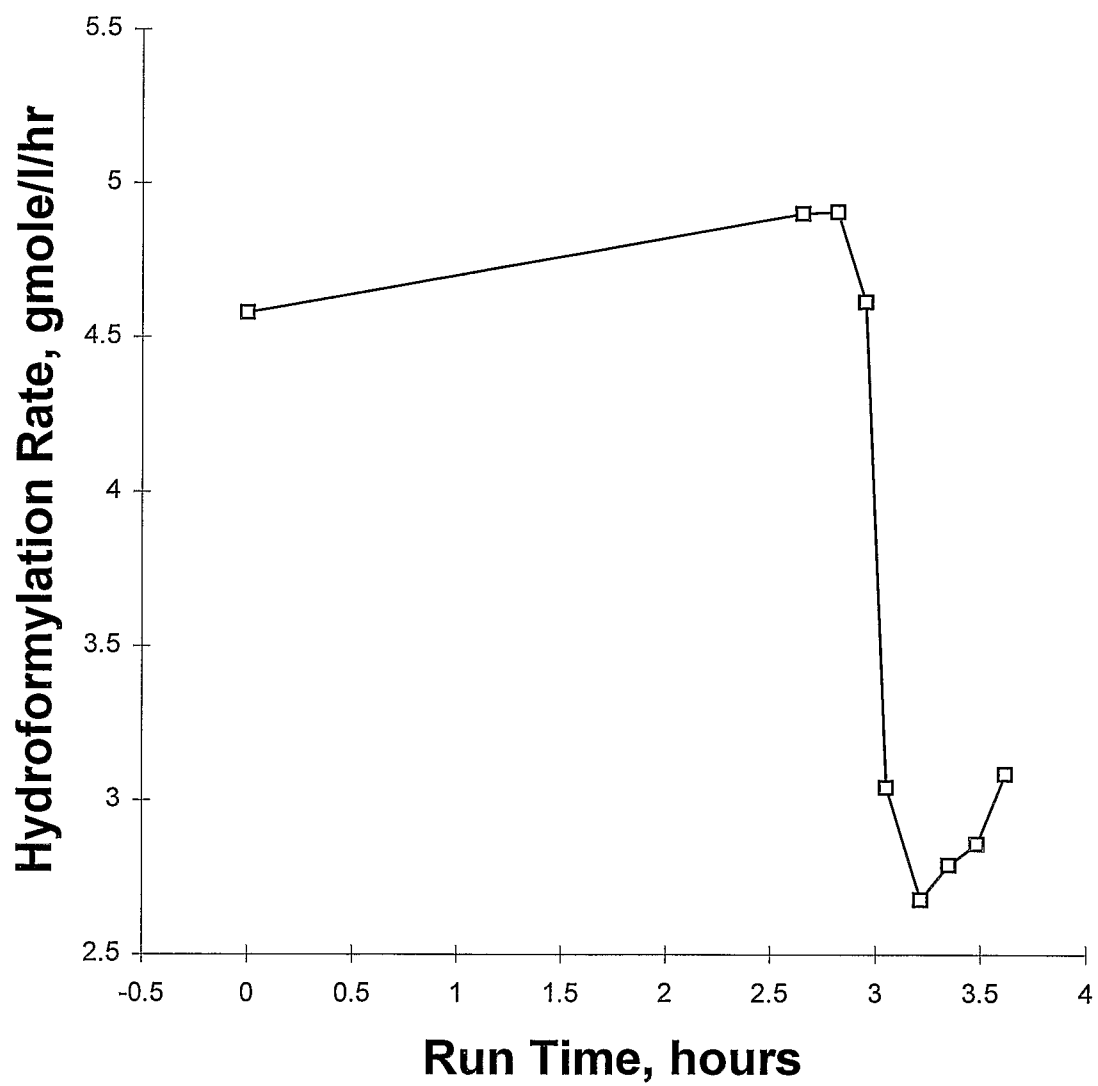
FIG 16



1. Impeller
2. Impeller shaft
3. Propylene feed line and feed flow control
4. Syngas feed line, sparger and feed flow controller
6. Total pressure sensor
7. Exit line for product solution/catalyst to product recovery system
8. Feed line for catalyst returned from product recovery system
10. Reactor total pressure control
11. Reactor vent flow sensor
13. Carbon monoxide feed flow controller

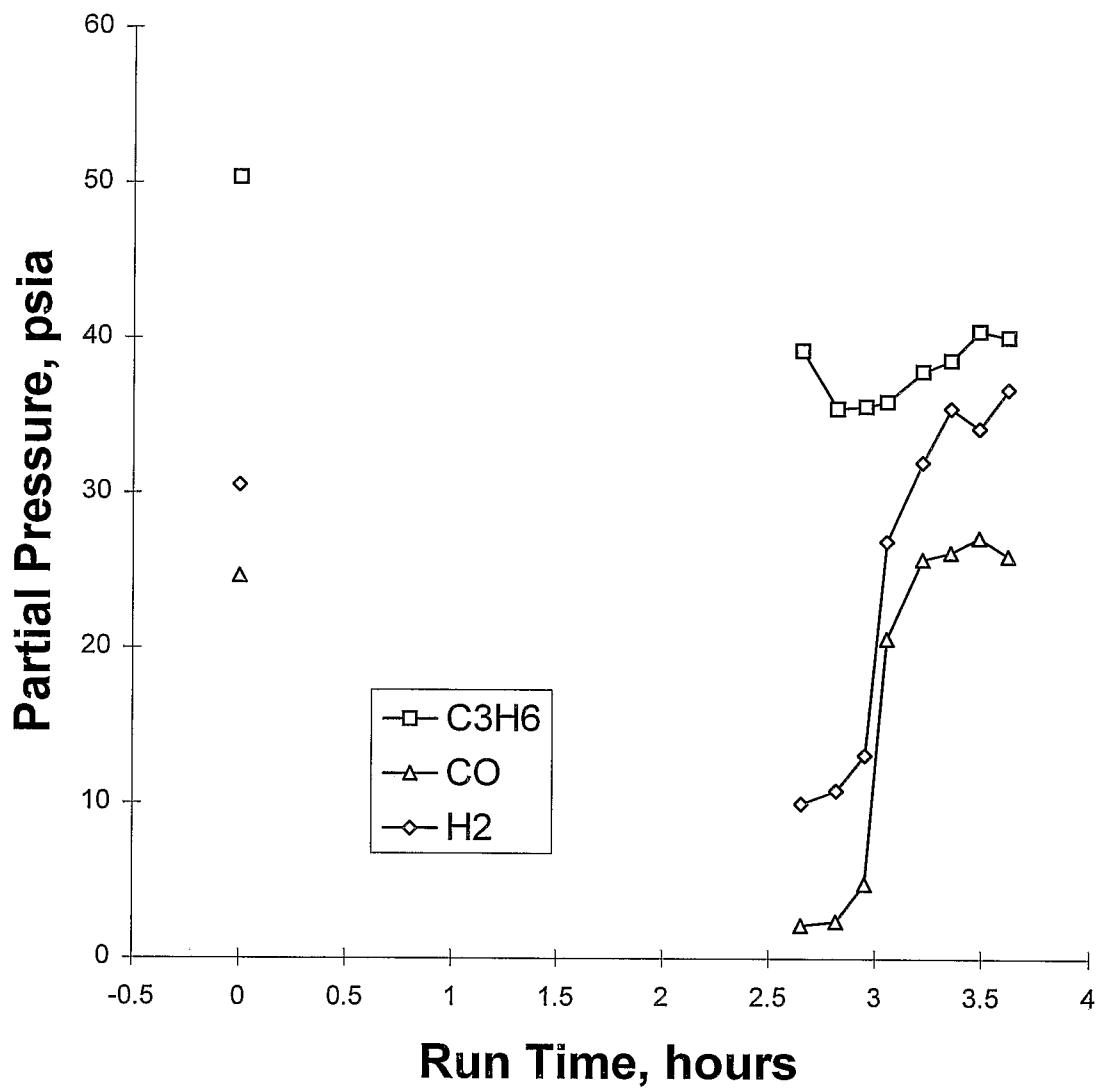
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FIG 17



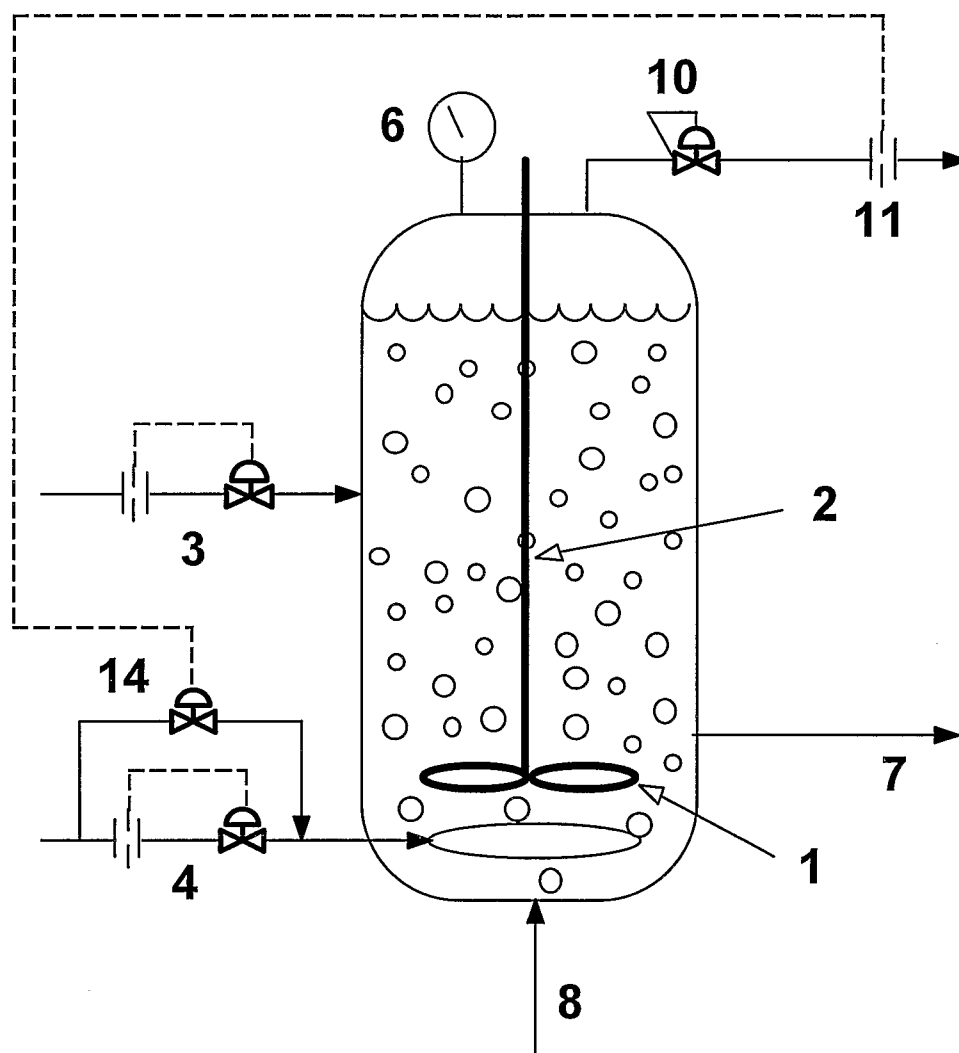
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FIG 18



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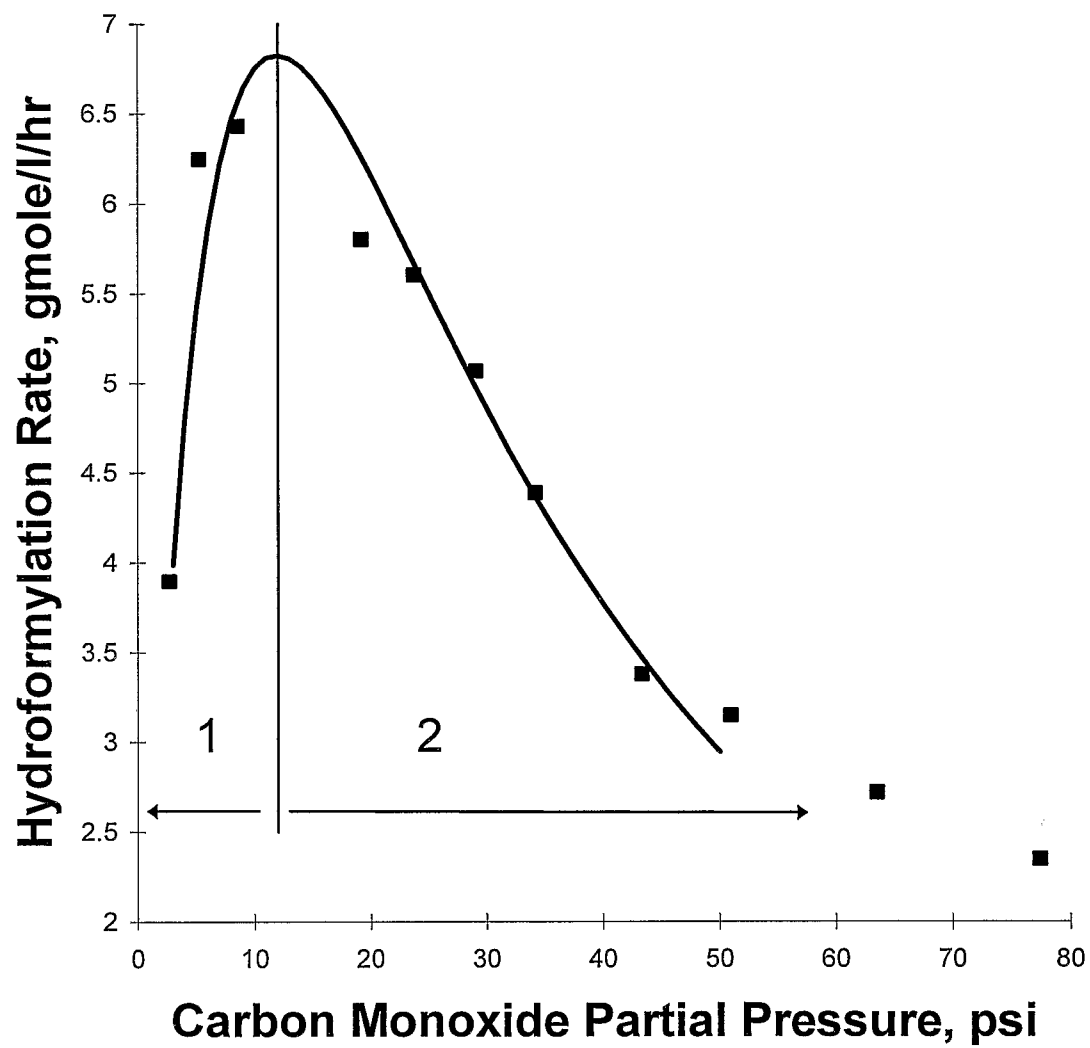
FIG 19



1. Impeller
2. Impeller shaft
3. Propylene feed line and feed flow control
4. Syngas feed line, sparger and feed flow controller
6. Total pressure sensor
7. Exit line for product solution/catalyst to product recovery system
8. Feed line for catalyst returned from product recovery system
10. Reactor total pressure control
11. Reactor vent flow sensor
14. Syngas feed line to control total reactor vent flow rate

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FIG 20



1. Positive order region
2. Negative or inverse order region