ED_000545OneDrive_00008541

EPAct Program

Fuel Matrix Design Options

August 2, 2007

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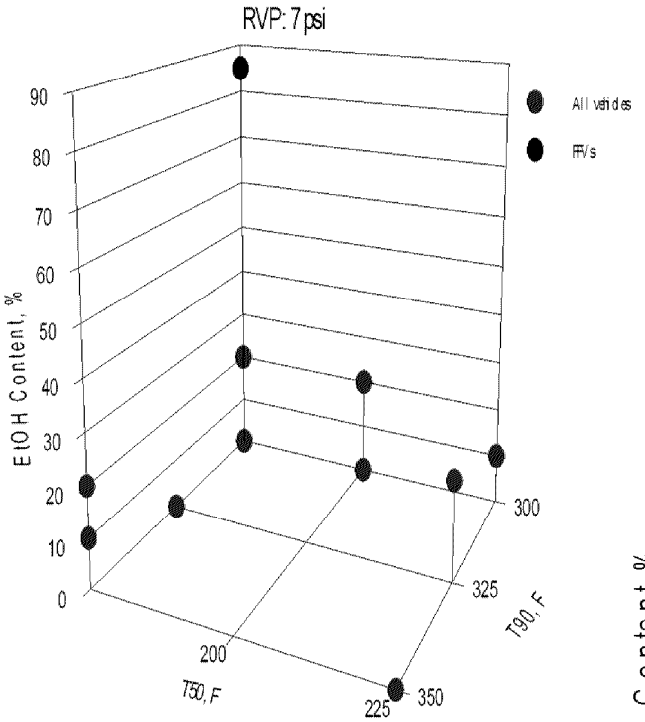
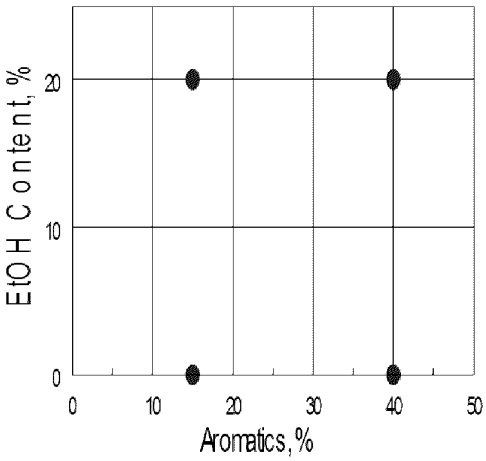
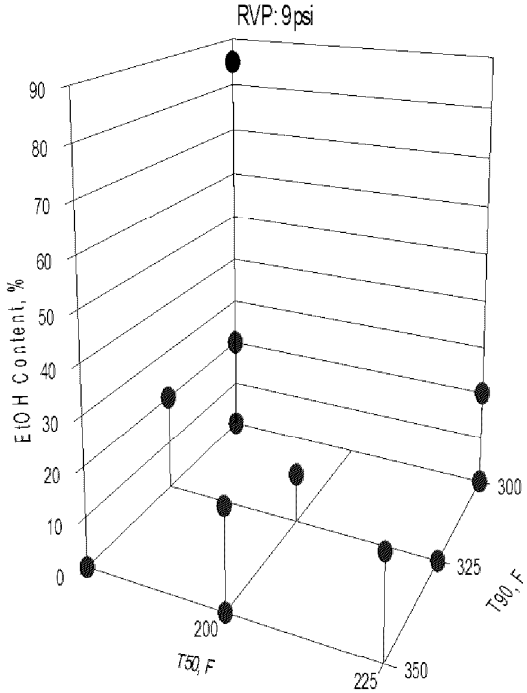
Fuel Matrix No.1A
(4 variable, mixed level (3x3x3x2))



- Computer generated optimal design
- 30 fuels
  - 21 fuels in 4-parameter matrix
    - G-Efficiency: 87.7%
  - Additional 2 E10s
  - 5 additional fuels to assess aromatics impact
  - 2 E85 fuels





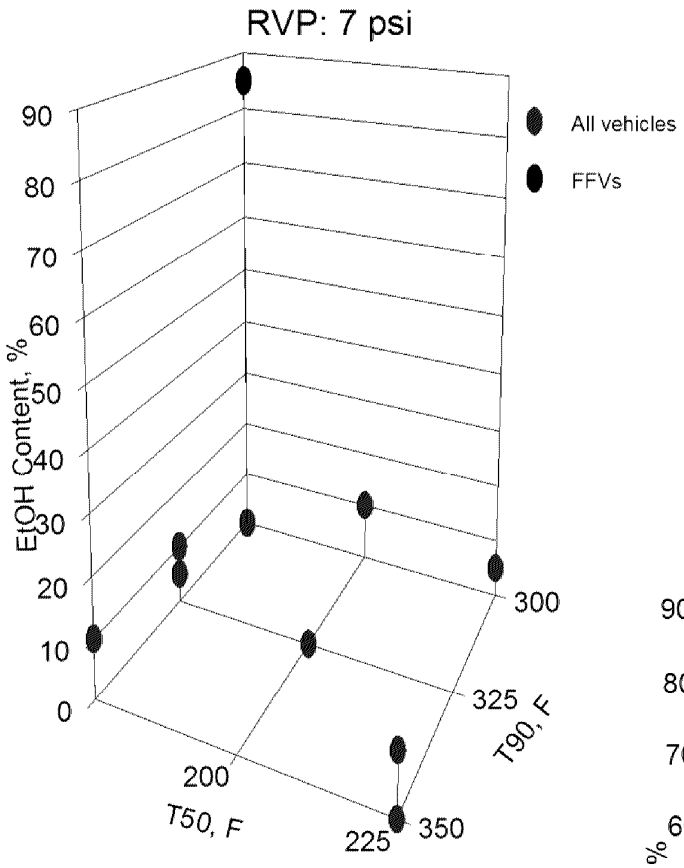
Fuel Matrix Design

Fuel Variables	# of Levels	Terms in Model
T50	3	Main effects, $T50^2$, $T90^2$, $EtOH^2$, T50*EtOH, T90*EtOH, RVP*EtOH
T90	3	
EtOH	3	
RVP	2	

Ex. 5 - Deliberative/Ex. 4 CBI

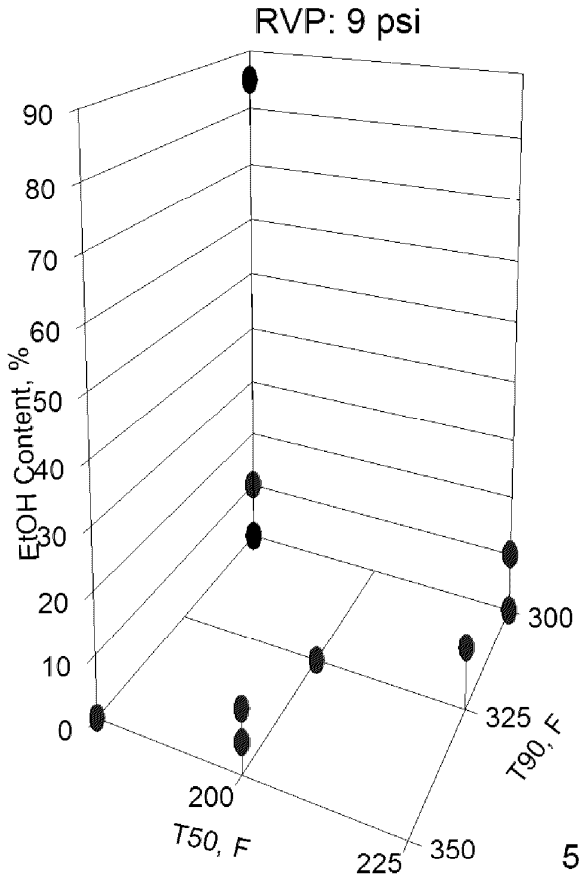
Ex. 5 - Deliberative/Ex. 4 CBI

Fuel Matrix No.1C
(4 variable, mixed level (3x3x3x2))



- Computer generated optimal design
- 27 fuels
- G-Efficiency*: 72.5%

* >60% considered satisfactory



Fuel Matrix Design

Fuel Variables	# of Levels	Terms in Model
T50	3	Main effects, $T50^2$, $T90^2$, $EtOH^2$, T50*EtOH, T90*EtOH, RVP*EtOH
T90	3	
EtOH	3	
RVP	2	

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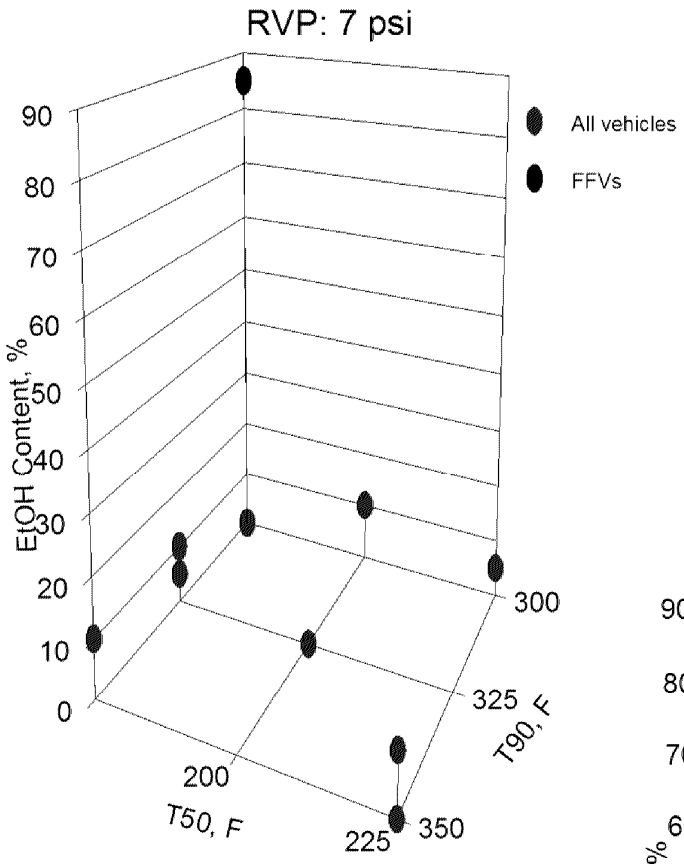
Ex. 5 - Deliberative/Ex. 4 CBI

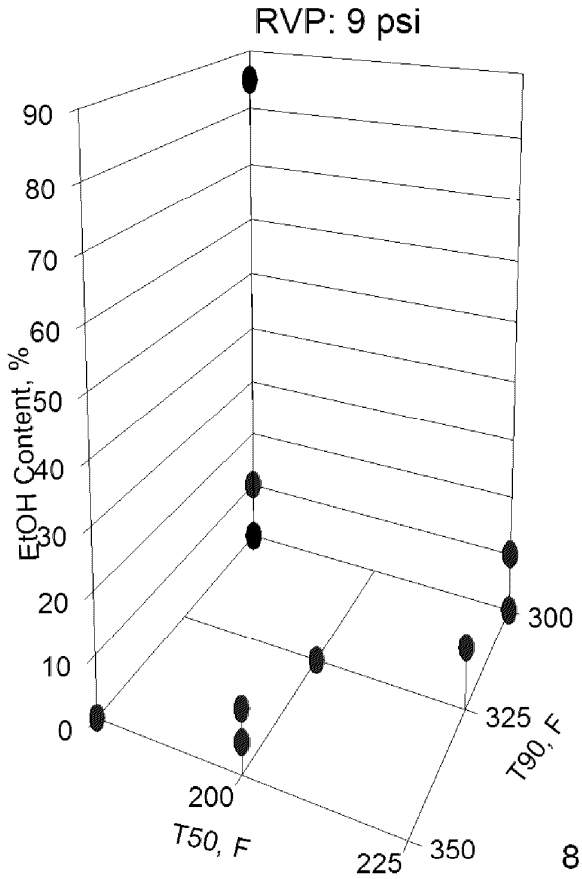
Ex. 5 - Deliberative/Ex. 4 CBI

Fuel Matrix No.1D
(4 variable, mixed level (3x3x3x2))



- Computer generated optimal design
- 26 fuels
- G-Efficiency*: 69.6%

* >60% considered satisfactory



Fuel Matrix Design

Fuel Variables	# of Levels	Terms in Model
T50	3	Main effects, $T50^2$, $T90^2$, $EtOH^2$, T50*EtOH, T90*EtOH, RVP*EtOH
T90	3	
EtOH	3	
RVP	2	

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Ex. 5 - Deliberative/Ex. 4 CBI

Ex. 5 - Deliberative/Ex. 4 CBI