Experiment No.	FT-STW-1-7			FT-STW-2-4		
Catalyst Information:						
Weight (grams)	17.0			18.0		
Thickness (inches)	4.7×10^{-2}			5.3×10^{-2}		
Spraying Technique	Flame			Flame		
Promotor	None			None		
Induction Parameters:						
Gas Composition	2.1 H_2/1 CO			2.1 H_2/1 CO		
Temperature (^oC)	240			240		
Pressure (psig)	atmospheric			atmospheric		
Exposure Velocity (J)	48			48		
Duration (hours)	72			72		
Fresh Feed Synthesis Gas						
Ratio: H_2/CO	2.1/1			2.1/1		
Exposure Velocity (J)	48			48		
Period	A	B	C	A	B	C
Temperature (^oC)	325	300	275	325	300	275
Pressure (psig)	300	300	300	300	300	300
Catalyst Age (hours)	190	262	334	190	262	334
Results:						
H_2 Conversion (%)	49.9	42.3	30.4	50.1	43.2	27.9
CO Conversion (%)	83.7	65.9	39.0	84.6	70.3	33.0
Material Recovery (%)	98.4	96.9	96.9	99.8	96.8	100.1
Usage Ratio:H_2/CO	1.28	1.42	1.72	1.27	1.36	1.87
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)						
Total Product	16.2	15.0	13.2	16.3	15.2	13.8
Weight Percent of Total Products as						
Hydrocarbon	29.4	29.7	31.8	29.8	30.3	32.1
H_2O	21.0	25.4	33.7	20.2	23.1	33.6
CO_2	48.8	43.8	31.4	48.6	45.0	29.0
Oxygenate	0.8	1.1	3.1	1.4	1.6	5.3
Hydrocarbon Product Distribution (wt %):						
CH_4	44.3	35.7	30.2	41.9	37.9	32.1
$C_2H_4 + C_2H_6$	17.7	16.2	15.1	17.6	16.5	13.8
$C_3H_6 + C_3H_8$	18.7	19.6	18.6	18.1	19.3	17.2
$C_4H_8 + C_4H_{10}$	9.3	11.8	11.6	10.2	9.5	9.6
Oils (C_5+)	6.5	13.1	15.6	7.9	11.9	13.2
Oxygenates	2.5	3.6	8.9	4.3	4.9	14.1

Experiment No.	FT-STW-1-6			FT-STW-4-3		
Catalyst Information:						
Weight (grams)	16.2			17.2		
Thickness (inches)	4.6×10^{-2}			4.1×10^{-2}		
Spraying Technique	Flame			Flame		
Promotor	None			None		
Induction Parameters:	None			None		
Gas Composition						
Temperature (°C)						
Pressure (psig)						
Exposure Velocity (J)						
Duration (hours)						
Fresh Feed Synthesis Gas						
Ratio: H_2/CO	2.1/1			2.1/1		
Exposure Velocity (J)	48			48		
Period	A	B	C	A	B	C
Temperature (°C)	325	300	275	325	300	275
Pressure (psig)	300	300	300	300	300	300
Catalyst Age (hours)	192	264	336	189	261	333
Results:						
H_2 Conversion (%)	43.6	34.5	21.6	43.0	32.7	18.9
CO Conversion (%)	66.5	48.3	24.2	67.0	45.5	18.9
Material Recovery (%)	95.2	96.7	101.9	97.7	94.2	102.4
Usage Ratio:H_2/CO	1.46	1.42	1.55	1.37	1.54	2.21
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)						
Total Product	14.8	14.0	14.2	15.7	13.0	13.5
Weight Percent of Total Product as:						
Hydrocarbon	31.0	30.0	28.1	29.8	32.9	28.0
H_2O	23.3	28.9	44.6	24.3	26.9	49.4
CO_2	44.7	39.1	22.0	45.9	40.3	22.6
Oxygenate	1.0	2.0	5.3	ND	ND	ND
Hydrocarbon Product Distribution (wt %):						
CH_4	38.3	35.3	33.9	40.0	38.2	46.3
$C_2H_4 + C_2H_6$	16.8	16.0	14.8	18.4	16.3	18.4
$C_3H_6 + C_3H_8$	18.8	20.1	17.2	20.3	19.2	16.1
$C_4H_8 + C_4H_{10}$	9.3	8.5	6.8	10.0	11.9	6.2
Oils	13.6	13.8	11.6	11.3	14.4	12.9
Oxygenates	3.2	6.3	15.7	ND	ND	ND

ND = Not determined.

Experiment No.	FT-STW-1-9			FT-STW-2-6		
Catalyst Information:						
Weight (grams)	16.5			17.5		
Thickness (inches)	4.0×10^{-2}			4.6×10^{-2}		
Spraying Technique	Flame			Flame		
Promotor	None			None		
Induction Parameters:	Incremental			Incremental		
Gas Composition	(See Text)			(See Text)		
Temperature (°C)						
Pressure (psig)						
Exposure Velocity (J)						
Duration (hours)						
Fresh Feed Synthesis Gas						
Ratio: H_2/CO	2.1/1			2.1/1		
Exposure Velocity (J)	48			48		
Period	A	B	C	A	B	C
Temperature (°C)	325	300	275	325	300	275
Pressure (psig)	300	300	300	300	300	300
Catalyst Age (hours)	192	264	336	192	264	336
Results:						
H_2 Conversion (%)	45.7	34.9	17.6	49.7	38.4	20.1
CO Conversion (%)	75.3	52.0	18.1	76.3	50.2	20.4
Material Recovery (%)	99.7	99.7	103.1	96.8	96.7	95.4
Usage Ratio:H_2/CO	1.28	1.41	2.10	1.41	1.65	2.14
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)						
Total Product	16.8	13.1	15.6	14.9	13.4	9.03
Weight Percent of Total Products as						
Hydrocarbon	29.8	30.9	31.3	29.2	30.0	32.4
H_2O	18.1	23.7	32.3	20.7	28.5	43.9
CO_2	50.7	42.1	30.5	48.7	38.9	14.1
Oxygenate	1.4	3.3	5.9	1.4	2.6	9.6
Hydrocarbon Product Distribution (wt %)						
CH_4	52.9	49.0	56.4	45.1	42.8	50.6
$C_2H_4 + C_2H_6$	17.8	16.5	14.1	18.0	17.6	14.4
$C_3H_6 + C_3H_8$	15.4	15.4	10.8	17.4	17.7	9.3
$C_4H_8 + C_4H_{10}$	5.7	5.4	1.3	8.1	7.1	0.8
Oils	3.6	4.0	1.3	6.8	6.9	2.1
Oxygenates	4.6	9.7	16.1	4.6	7.9	22.8

Experiment No.	FT-STW-1-18		
Catalyst Information:			
Weight (grams)	17.5		
Thickness (inches)	3.7×10^{-2}		
Spraying Technique	Flame		
Promotor	None		
Induction Parameters:			
Gas Composition	2.25 H_2/1 CO		
Temperature (°C)	320		
Pressure (psig)	atmospheric		
Exposure Velocity (J)	48		
Duration (hours)	72		
Fresh Feed Synthesis Gas			
Ratio: H_2/CO	2.25 H_2/1 CO		
Exposure Velocity (J)	48		
Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	300	300	300
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	24.7	14.2	5.4
CO Conversion (%)	28.6	15.1	1.3
Material Recovery (%)	101.0	101.6	104.1
Usage Ratio:H_2/CO	1.77	2.16	4.22
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	13.6	14.3	19.1
Weight Percent of Total Product as			
Hydrocarbon	33.5	31.1	33.1
H_2O	28.2	33.6	30.8
CO_2	34.2	30.9	30.2
Oxygenate	4.1	4.4	5.9
Hydrocarbon Product Distribution (wt %):			
CH_4	59.2	51.0	54.3
$C_2H_4 + C_2H_6$	13.5	14.2	12.4
$C_3H_6 + C_3H_8$	9.9	13.2	18.1
$C_4H_8 + C_4H_{10}$	4.6	9.1	--
Oils	1.8	--	--
Oxygenates	11.0	12.5	15.2

Experiment No.	FT-STW-2-14		
Catalyst Information:			
Weight (grams)	16.5		
Thickness (inches)	3.7×10^{-2}		
Spraying Technique	Flame		
Promotor	None		
Induction Parameters:			
Gas Composition	2.2 H_2/1 CO		
Temperature (°C)	240		
Pressure (psig)	300		
Exposure Velocity (J)	48		
Duration (hours)	72		
Fresh Feed Synthesis Gas			
Ratio: H_2/CO	2.2/1		
Exposure Velocity (J)	48		
Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	300	300	300
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	47.5	37.8	19.1
CO Conversion (%)	72.0	48.4	19.5
Material Recovery (%)	100.4	100.2	99.5
Usage Ratio:H_2/CO	1.50	1.77	2.21
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	15.9	14.8	13.2
Weight Percent of Total Product as			
Hydrocarbon	30.6	32.4	30.7
H_2O	19.1	22.5	27.1
CO_2	47.6	38.2	27.4
Oxygenate	2.7	6.9	14.8
Hydrocarbon Product Distribution (wt %):			
CH_4	58.5	53.1	50.4
C_2H_4 + C_2H_6	17.6	15.0	11.4
C_3H_6 + C_3H_8	11.4	9.4	5.6
C_4H_8 + C_4H_{10}	4.4	3.9	--
Oils	--	1.1	--
Oxygenates	8.1	17.5	32.6

Experiment No.	FT-STW-4-10		
Catalyst Information:			
Weight (grams)	16.5		
Thickness (inches)	4.6×10^{-2}		
Spraying Technique	Flame		
Promotor	None		
Induction Parameters:			
Gas Composition	2.1 H_2/1 CO		
Temperature (°C)	240		
Pressure (psig)	atmospheric		
Exposure Velocity (J)	48		
Duration (hours)	72		
Fresh Feed Synthesis Gas			
Ratio: H_2/CO	2.2/1		
Exposure Velocity (J)	48		
Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	300	300	300
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	48.2	36.8	22.4
CO Conversion (%)	78.2	58.4	35.1
Material Recovery (%)	93.8	96.9	92.1
Usage Ratio:H_2/CO	1.31	1.38	1.37
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	15.2	15.2	11.9
Weight Percent of Total Product as			
Hydrocarbon	30.5	30.5	36.5
H_2O	20.1	26.8	25.3
CO_2	47.8	40.3	33.7
Oxygenate	1.6	2.4	4.5
Hydrocarbon Product Distribution (wt %):			
CH_4	39.8	36.1	39.5
$C_2H_4 + C_2H_6$	18.5	16.1	14.6
$C_3H_6 + C_3H_8$	19.2	19.6	17.1
$C_4H_8 + C_4H_{10}$	9.0	10.0	10.4
Oils	8.4	11.0	7.4
Oxygenates	5.1	7.2	11.0

Experiment No.	FT-STW-3-14
Catalyst Information:	
Weight (grams)	17.0
Thickness (inches)	4.0×10^{-2}
Spraying Technique	Plasma
Promotor	None
Induction Parameters:	
Gas Composition	2.3 H_2/1 CO
Temperature (°C)	240
Pressure (psig)	atmospheric
Exposure Velocity (J)	48
Duration (hours)	72
Fresh Feed Synthesis Gas	
Ratio: H_2/CO	2.3/1
Exposure Velocity (J)	48

Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	300	300	300
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	45.0	34.4	23.5
CO Conversion (%)	70.2	47.7	27.1
Material Recovery (%)	95.6	95.5	96.4
Usage Ratio:H_2/CO	1.45	1.63	1.96
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	14.8	13.4	11.6
Weight Percent of Total Product as			
Hydrocarbon	28.9	28.7	25.9
H_2O	22.3	26.7	35.6
CO_2	47.4	42.0	34.6
Oxygenate	1.4	2.6	3.9
Hydrocarbon Product Distribution (wt %):			
CH_4	46.3	42.2	42.0
$C_2H_4 + C_2H_6$	17.3	16.1	20.1
$C_3H_6 + C_3H_8$	18.3	18.4	17.2
$C_4H_8 + C_4H_{10}$	6.0	6.6	3.6
Oils	7.5	8.5	8.9
Oxygenates	4.6	8.2	8.2

Experiment No.	FT-STW-3-9		
Catalyst Information:			
Weight (grams)	16.5		
Thickness (inches)	4.2×10^{-2}		
Spraying Technique	Flame		
Promotor	None		
Induction Parameters:			
Gas Composition	2.2 H_2/1 CO		
Temperature (°C)	240		
Pressure (psig)	atmospheric		
Exposure Velocity (J)	48		
Duration (hours)	72		
Fresh Feed Synthesis Gas			
Ratio: H_2/CO	2.2/1		
Exposure Velocity (J)	48		
Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	150	150	150
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	10.0	14.2	9.4
CO Conversion (%)	16.4	13.0	8.0
Material Recovery (%)	94.9	102.5	103.5
Usage Ratio:H_2/CO	1.32	2.36	2.56
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	11.1	15.8	18.6
Weight Percent of Total Product as			
Hydrocarbon	35.2	30.2	29.8
H_2O	15.8	31.7	36.2
CO_2	47.8	35.9	30.5
Oxygenate	1.2	2.2	3.5
Hydrocarbon Product Distribution (wt %):			
CH_4	58.3	44.1	40.7
C_2H_4 + C_2H_6	22.3	15.2	13.4
C_3H_6 + C_3H_8	16.1	22.0	19.3
C_4H_8 + C_4H_{10}	--	9.8	13.0
Oils	--	2.0	3.1
Oxygenates	3.3	6.9	10.5

Experiment No.	FT-STW-4-11		
Catalyst Information:			
Weight (grams)	17.0		
Thickness (inches)	4.3×10^{-2}		
Spraying Technique	Flame		
Promotor	None		
Induction Parameters:			
Gas Composition	2.2 H_2/1 CO		
Temperature (°C)	240		
Pressure (psig)	atmospheric		
Exposure Velocity (J)	48		
Duration (hours)	72		
Fresh Feed Synthesis Gas			
Ratio: H_2/CO	2.2/1		
Exposure Velocity (J)	48		
Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	600	600	600
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	50.5	37.3	21.6
CO Conversion (%)	73.1	38.8	18.5
Material Recovery (%)	96.5	102.4	102.9
Usage Ratio:H_2/CO	1.49	2.09	2.53
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	15.0	14.3	14.3
Weight Percent of Total Product as			
Hydrocarbon	30.6	35.1	33.3
H_2O	25.0	22.4	27.2
CO_2	39.6	33.1	22.5
Oxygenate	4.8	9.4	17.0
Hydrocarbon Product Distribution (wt %):			
CH_4	43.3	50.2	43.3
$C_2H_4 + C_2H_6$	14.7	12.2	11.3
$C_3H_6 + C_3H_8$	13.3	8.9	6.7
$C_4H_8 + C_4H_{10}$	6.6	4.7	4.4
Oils	8.4	3.0	0.5
Oxygenates	13.7	21.0	33.8

Experiment No.	FT-STW-3-8		
Catalyst Information:			
Weight (grams)	17.5		
Thickness (inches)	5.1×10^{-2}		
Spraying Technique	Flame		
Promotor	None		
Induction Parameters:			
Gas Composition	2.2 H_2/1 CO		
Temperature (°C)	240		
Pressure (psig)	atmospheric		
Exposure Velocity (J)	48		
Duration (hours)	72		
Fresh Feed Synthesis Gas			
Ratio: H_2/CO	2.2/1		
Exposure Velocity (J)	48		
Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	600	600	600
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	55.0	40.5	16.9
CO Conversion (%)	79.9	50.0	19.2
Material Recovery (%)	97.3	102.7	101.1
Usage Ratio:H_2/CO	1.53	1.73	1.94
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	14.8	15.3	14.5
Weight Percent of Total Product as			
Hydrocarbon	32.1	32.4	34.8
H_2O	25.7	40.1	47.9
CO_2	42.2	27.5	17.4
Oxygenate	ND	ND	ND
Hydrocarbon Product Distribution (wt %):			
CH_4	51.9	55.7	67.2
$C_2H_4 + C_2H_6$	17.9	15.5	16.3
$C_3H_6 + C_3H_8$	17.5	13.6	12.8
$C_4H_8 + C_4H_{10}$	7.7	6.2	3.7
Oils	4.9	9.0	--
Oxygenates	ND	ND	ND

ND = Not determined.

Experiment No.	FT-STW-3-10		
Catalyst Information:			
Weight (grams)	16.5		
Thickness (inches)	3.5×10^{-2}		
Spraying Technique	Flame		
Promotor	None		
Induction Parameters:			
Gas Composition	2.3 H_2/1 CO		
Temperature (°C)	240		
Pressure (psig)	atmospheric		
Exposure Velocity (J)	48		
Duration (hours)	72		
Fresh Feed Synthesis Gas			
Ratio: H_2/CO	2.3/1		
Exposure Velocity (J)	24		
Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	300	300	300
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	56.0	51.0	21.3
CO Conversion (%)	87.2	74.0	25.7
Material Recovery (%)	93.5	91.6	100.3
Usage Ratio:H_2/CO	1.45	1.55	1.87
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	14.3	12.9	14.1
Weight Percent of Total Product as			
Hydrocarbon	31.3	34.2	32.4
H_2O	18.4	15.5	28.3
CO_2	48.5	48.3	31.5
Oxygenate	1.8	2.0	7.8
Hydrocarbon Product Distribution (wt %):			
CH_4	36.9	33.8	36.0
$C_2H_4 + C_2H_6$	16.7	16.6	15.9
$C_3H_6 + C_3H_8$	18.6	19.1	18.2
$C_4H_8 + C_4H_{10}$	10.4	12.2	8.9
Oils	12.0	12.7	1.6
Oxygenates	5.4	5.6	19.4

Experiment No.	FT-STW-4-12
Catalyst Information:	
Weight (grams)	17.5
Thickness (inches)	3.6×10^{-2}
Spraying Technique	Flame
Promotor	None
Induction Parameters:	
Gas Composition	2.3 H_2/1 CO
Temperature (°C)	240
Pressure (psig)	atmospheric
Exposure Velocity (J)	48
Duration (hours)	72
Fresh Feed Synthesis Gas	
Ratio: H_2/CO	2.3/1
Exposure Velocity (J)	96

Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	300	300	300
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	38.8	31.1	17.4
CO Conversion (%)	55.1	35.8	19.8
Material Recovery (%)	101.9	99.0	92.0
Usage Ratio:H_2/CO	1.60	1.97	1.99
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	15.6	12.6	8.7
Weight Percent of Total Product as			
Hydrocarbon	30.9	30.3	27.3
H_2O	23.0	27.1	39.7
CO_2	44.3	39.4	23.9
Oxygenate	1.8	3.2	9.1
Hydrocarbon Product Distribution (wt %):			
CH_4	39.3	40.5	24.8
$C_2H_4 + C_2H_6$	17.0	16.6	17.4
$C_3H_6 + C_3H_8$	19.4	19.4	17.0
$C_4H_8 + C_4H_{10}$	9.7	5.5	11.2
Oils	9.1	8.5	4.4
Oxygenates	5.5	9.5	25.2

Experiment No.	FT-STW-3-13
Catalyst Information:	
Weight (grams)	17.0
Thickness (inches)	4.9×10^{-2}
Spraying Technique	Flame
Promotor	None
Induction Parameters:	
Gas Composition	2.3 H_2/1 CO
Temperature (°C)	240
Pressure (psig)	atmospheric
Exposure Velocity (J)	48
Duration (hours)	72
Fresh Feed Synthesis Gas	
Ratio: H_2/CO	0.9/1
Exposure Velocity (J)	48

Period	A	B	C
Temperature (°C)	325	300	275
Pressure (psig)	300	300	300
Catalyst Age (hours)	192	264	336
Results:			
H_2 Conversion (%)	44.6	21.6	9.8
CO Conversion (%)	31.3	11.5	0.4
Material Recovery (%)	102.1	103.0	101.0
Usage Ratio:H_2/CO	1.31	1.73	--
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)			
Total Product	17.9	17.2	--
Weight Percent of Total Product as			
Hydrocarbon	28.3	28.0	--
H_2O	15.3	28.0	--
CO_2	54.2	39.0	--
Oxygenate	2.2	5.0	--
Hydrocarbon Product Distribution (wt %):			
CH_4	43.5	51.0	--
$C_2H_4 + C_2H_6$	16.1	14.0	--
$C_3H_6 + C_3H_8$	16.1	10.6	--
$C_4H_8 + C_4H_{10}$	8.3	7.3	--
Oils	9.0	1.9	--
Oxygenates	7.0	15.2	--

Experiment No.	FT-STW-2-15			FT-STW-1-19		
Catalyst Information:						
Weight (grams)	17.5			17.0		
Thickness (inches)	4.7×10^{-2}			4.0×10^{-2}		
Spraying Technique	Flame			Flame		
Promotor	6% Copper			3.4% K^+ and 1.0% Cu^{++} (nitrate solution)		
Induction Parameters:						
Gas Composition	2.3 H_2/1 CO			2.3 H_2/1 CO		
Temperature (°C)	240			240		
Pressure (psig)	atmospheric			atmospheric		
Exposure Velocity (J)	48			48		
Duration (hours)	72			72		
Fresh Feed Synthesis Gas						
Ratio: H_2/CO	2.3/1			2.3/1		
Exposure Velocity (J)	48			48		
Period	A	B	C	A	B	C
Temperature (°C)	325	300	275	325	300	275
Pressure (psig)	300	300	300	300	300	300
Catalyst Age (hours)	192	264	336	192	264	336
Results:						
H_2 Conversion (%)	49.9	40.1	25.4	37.4	28.7	16.1
CO Conversion (%)	80.7	55.8	27.4	72.2	53.4	23.5
Material Recovery (%)	94.6	97.4	96.5	100.9	103.2	99.2
Usage Ratio:H_2/CO	1.40	1.63	2.10	1.18	1.23	1.57
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)						
Total Product	15.1	14.4	11.6	17.8	18.5	14.7
Weight Percent of Total Products as						
Hydrocarbon	27.3	31.2	32.0	26.8	25.7	26.4
H_2O	19.7	24.4	34.2	13.7	17.1	24.2
CO_2	52.1	41.0	26.3	58.1	55.3	45.8
Oxygenate	0.9	3.4	7.5	1.4	1.9	3.6
Hydrocarbon Product Distribution (wt %)						
CH_4	58.1	45.9	46.6	39.0	34.4	33.6
$C_2H_4 + C_2H_6$	22.9	17.2	15.1	17.1	16.1	14.8
$C_3H_6 + C_3H_8$	3.1	16.0	12.6	17.8	20.8	16.0
$C_4H_8 + C_4H_{10}$	7.4	6.8	5.6	12.1	10.7	15.8
Oils	5.2	4.3	1.1	9.0	11.0	8.0
Oxygenates	3.3	9.8	19.0	5.0	7.0	11.8

Experiment No.	FT-STW-1-20			FT-STW-3-11		
Catalyst Information:						
Weight (grams)	17.0			17.5		
Thickness (inches)	4.2×10^{-2}			3.9×10^{-2}		
Spraying Technique	Flame			Flame		
Promotor	10.6% K_2CO_3			8.8% KNO_3		
Induction Parameters:						
Gas Composition	2.3 H_2/1 CO			2.3 H_2/1 CO		
Temperature (°C)	240			240		
Pressure (psig)	atmospheric			atmospheric		
Exposure Velocity (J)	48			48		
Duration (hours)	72			72		
Fresh Feed Synthesis Gas						
Ratio: H_2/CO	2.3/1			2.3/1		
Exposure Velocity (J)	48			48		
Period	A	B	C	A	B	C
Temperature (°C)	326	300	275	326	299	275
Pressure (psig)	300	300	300	300	300	300
Catalyst Age (hours)	192	264	336	192	264	336
Results:						
H_2 Conversion (%)	68.7	67.1	64.7	35.5	23.5	11.3
CO Conversion (%)	78.8	87.1	83.9	75.6	45.9	18.9
Material Recovery (%)	95.4	93.2	94.6	102.1	102.3	103.8
Usage Ratio:H_2/CO	1.98	1.75	1.75	1.08	1.17	1.38
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)						
Total Product	12.7	11.5	13.4	19.2	19.3	21.12
Weight Percent of Total Products as						
Hydrocarbon	37.9	35.3	36.3	27.6	26.4	25.0
H_2O	28.7	26.9	25.0	14.1	15.7	21.8
CO_2	33.4	37.8	38.7	56.8	56.1	51.6
Oxygenate	< 0.1	< 0.1	< 0.1	1.5	1.8	1.6
Hydrocarbon Product Distribution (wt %)						
CH_4	83.1	76.3	77.5	36.4	35.4	31.9
$C_2H_4 + C_2H_6$	15.4	11.8	10.6	17.4	17.0	13.1
$C_3H_6 + C_3H_8$	1.3	7.5	7.0	17.6	18.9	16.1
$C_4H_8 + C_4H_{10}$	--	2.2	2.3	12.2	10.9	16.5
Oils	--	2.0	2.4	11.0	11.4	10.2
Oxygenates	0.2	0.2	0.2	5.4	6.4	12.2

Experiment No.	FT-STW-2-10			FT-STW-4-7		
Catalyst Information:						
Weight (grams)	17.0			17.0		
Thickness (inches)	3.4×10^{-2}			5.5×10^{-2}		
Spraying Technique	Flame			Flame		
Promotor	6% K_2CO_3			6% K_2CO_3		
Induction Parameters:						
Gas Composition	1.8 H_2/1 CO			2.0 H_2/1 CO		
Temperature (°C)	240			240		
Pressure (psig)	atmospheric			atmospheric		
Exposure Velocity (J)	48			48		
Duration (hours)	72			72		
Fresh Feed Synthesis Gas						
Ratio: H_2/CO	1.8/1			2.0/1		
Exposure Velocity (J)	48			48		
Period	A	B	C	A	B	C
Temperature (°C)	325	300	275	325	300	275
Pressure (psig)	300	300	300	300	300	300
Catalyst Age (hours)	192	264	336	192	264	336
Results:						
H_2 Conversion (%)	42.0	34.7	17.6	37.6	28.4	6.9
CO Conversion (%)	74.8	56.9	24.5	76.7	53.3	10.7
Material Recovery (%)	99.1	100.0	100.5	96.7	98.1	98.9
Usage Ratio:H_2/CO	1.03	1.11	1.32	0.99	1.08	1.29
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)						
Total Product	18.4	17.9	16.9	17.8	17.2	14.
Weight Percent of Total Products as						
Hydrocarbon	28.1	27.1	27.5	24.8	23.8	14.9
H_2O	13.0	14.5	18.8	13.1	14.6	19.9
CO_2	57.1	55.6	48.2	60.7	59.1	63.4
Oxygenate	1.8	2.8	5.5	1.4	2.5	1.8
Hydrocarbon Product Distribution (wt %)						
CH_4	35.2	26.7	50.0	34.1	31.5	
$C_2H_4 + C_2H_6$	16.5	15.3	14.8	14.2	14.2	
$C_3H_6 + C_3H_8$	16.6	15.6	13.0	17.7	16.4	
$C_4H_8 + C_4H_{10}$	11.6	9.0	2.9	9.9	9.3	
Oils	14.2	13.9	2.7	18.5	19.0	
Oxygenates	5.9	9.5	16.6	5.6	9.6	

Experiment No.	FT-STW-3-12			FT-STW-4-14		
Catalyst Information:						
Weight (grams)	17.5			17.5		
Thickness (inches)	3.9×10^{-2}			4.6×10^{-2}		
Spraying Technique	Flame			Flame		
Promotor	3.4% K^+ + 3.0% Cu^{++}			3.4% K^+ + 6.0% Cu^{++}		
Induction Parameters:						
Gas Composition	2.3 H_2/1 CO			2.3 H_2/1 CO		
Temperature (°C)	240			240		
Pressure (psig)	atmospheric			atmospheric		
Exposure Velocity (J)	48			48		
Duration (hours)	72			72		
Fresh Feed Synthesis Gas						
Ratio: H_2/CO	2.3/1			2.3/1		
Exposure Velocity (J)	48			48		
Period	A	B	C	A	B	C
Temperature (°C)	325	300	275	325	300	275
Pressure (psig)	300	300	300	300	300	300
Catalyst Age (hours)	192	264	336	192	264	336
Results:						
H_2 Conversion (%)	44.2	35.8	22.5	18.4	12.6	10.5
CO Conversion (%)	74.3	53.8	26.8	16.6	9.0	8.9
Material Recovery (%)	99.9	96.9	96.9	92.0	92.9	91.5
Usage Ratio:H_2/CO	1.36	1.49	1.91	2.53	3.21	2.68
Yield, Specific (g/10 ft^3 of (H_2 + CO) converted)						
Total Product	16.4	14.7	12.0	6.0	2.4	0.0
Weight Percent of Total Products as						
Hydrocarbon	29.0	29.5	29.0	35.4	30.0	--
H_2O	18.1	22.9	32.6	39.5	39.8	--
CO_2	51.2	45.3	32.2	20.1	27.9	--
Oxygenate	1.7	2.3	6.2	5.0	2.3	--
Hydrocarbon Product Distribution (wt %)						
CH_4	41.0	37.3	35.5	72.3	93.0	--
C_2H_4 + C_2H_6	18.2	16.8	15.7	15.4	--	--
C_3H_6 + C_3H_8	17.6	18.6	15.0	--	--	--
C_4H_8 + C_4H_{10}	10.2	10.5	9.0	--	--	--
Oils	7.6	9.6	7.0	--	--	--
Oxygenates	5.4	7.2	17.8	12.3	7.0	--

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