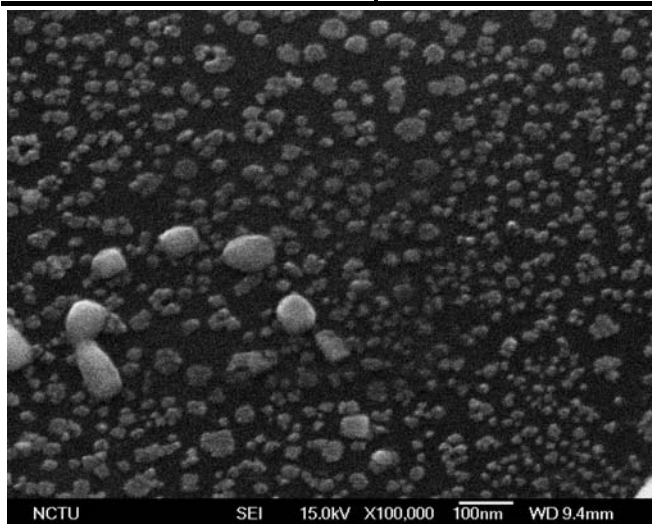


1. 編號 A 系列的鈷觸媒碳奈米管 SEM 影像圖
2. 編號 B 系列的鐵觸媒碳奈米管 SEM 影像圖
3. 編號 C 系列的鎳觸媒碳奈米管 SEM 影像圖
4. 編號 D、E、F 系列的碳奈米管 SEM 影像圖

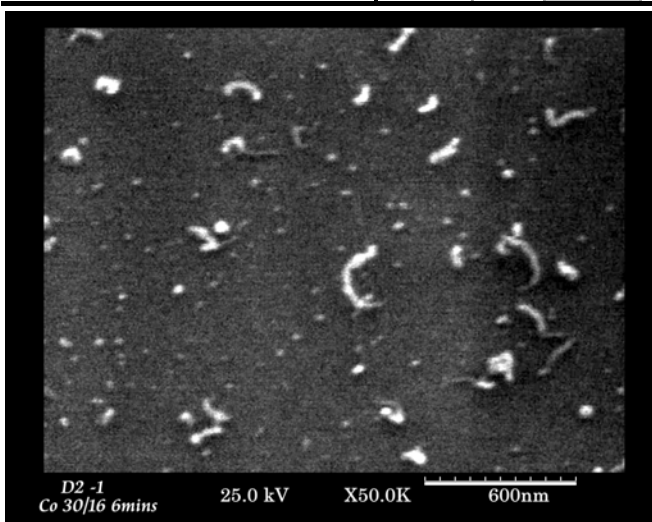


1. 編號 A 系列的鈷觸媒碳奈米管 SEM 影像圖

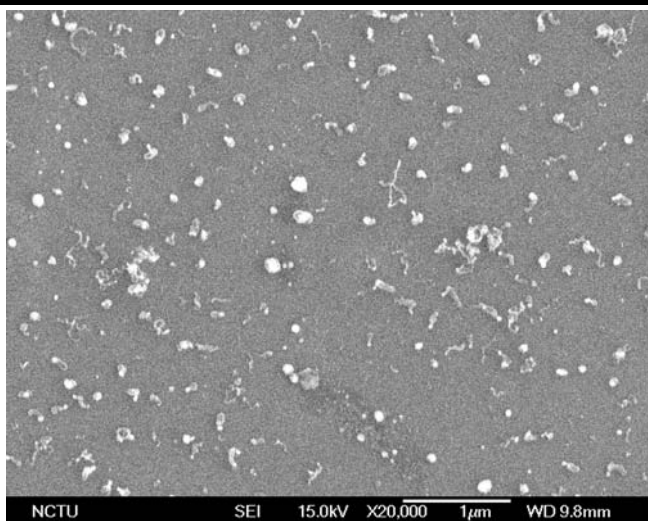
Specimen	A1	Step	Gas (sccm)			Pres	Power	Time	Temp
Catalyst	Co		H ₂	100		30 torr	400 W	10 min	350 °C
Substrate	Si	Step	Gas (sccm)			Pres	Power	Time	Temp
Diameter	Avg. 18.85	II							



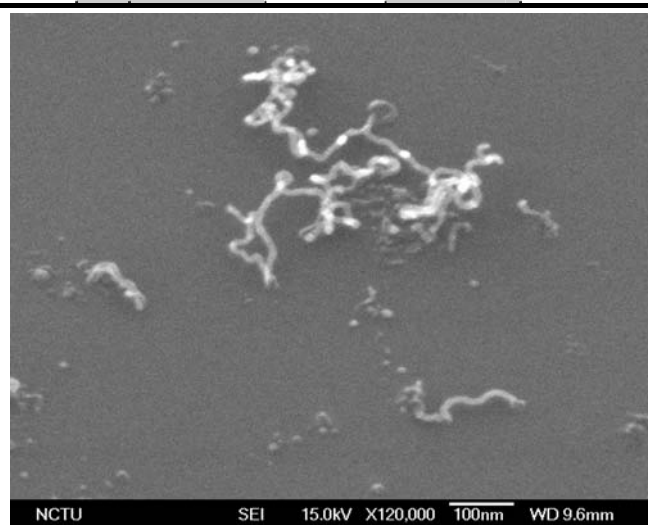
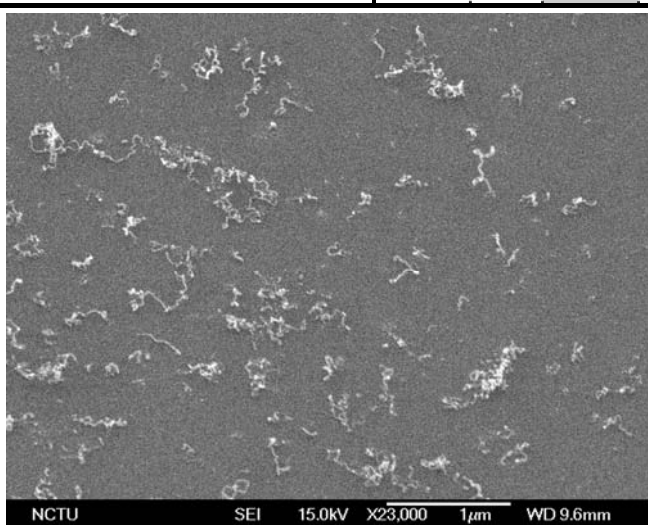
Specimen	A2	Step	Gas (sccm)			Pres	Power	Time	Temp
Catalyst	Co		H ₂	100		30 torr	400 W	10 min	380°C
Substrate	Si	Step	Gas (sccm)			Pres	Power	Time	Temp
Diameter	22~26	II	H ₂	50	CH ₄ 5	16 torr	800W	6 min	550°C



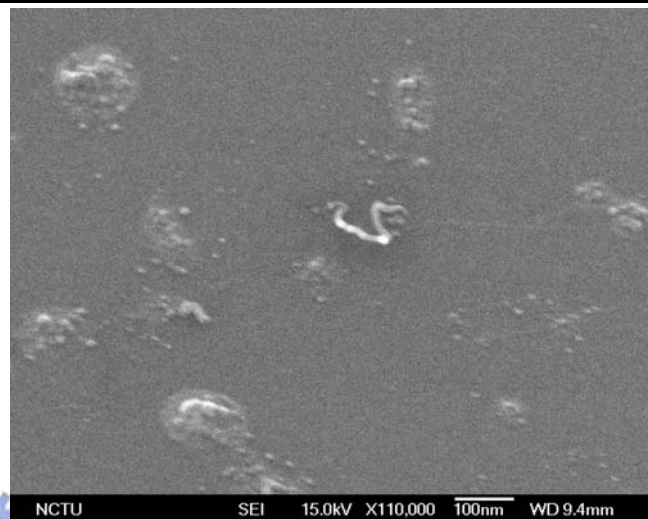
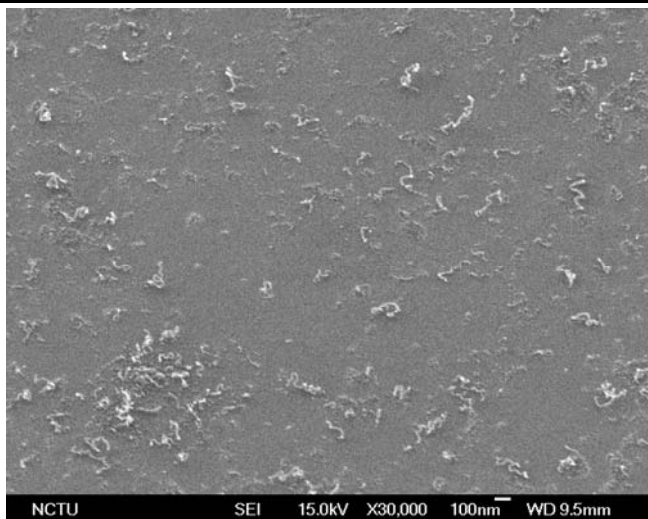
Specimen	A3	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Co	I	H ₂	100			30 torr	400 W	10 min	450°C
Substrate	Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	16~27	II	H ₂	50	CH ₄	5	16 torr	800W	12 min	610°C



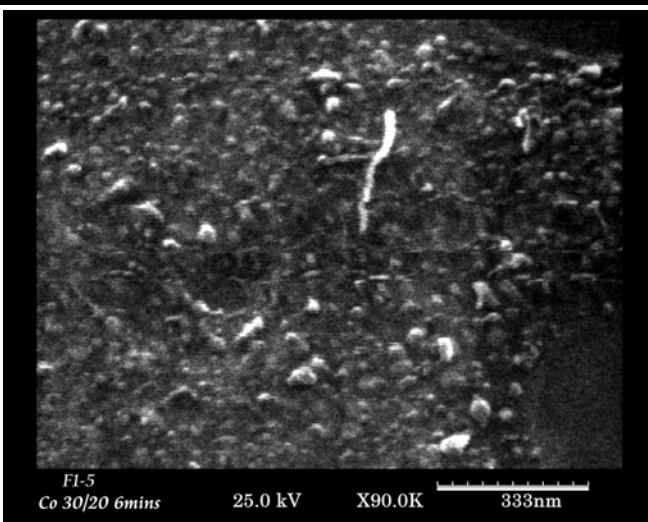
Specimen	A4	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Co	I	H ₂	100			30 torr	400 W	10 min	460°C
Substrate	Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	9~15	II	H ₂	75	CH ₄	5	16 torr	800W	6 min	580°C



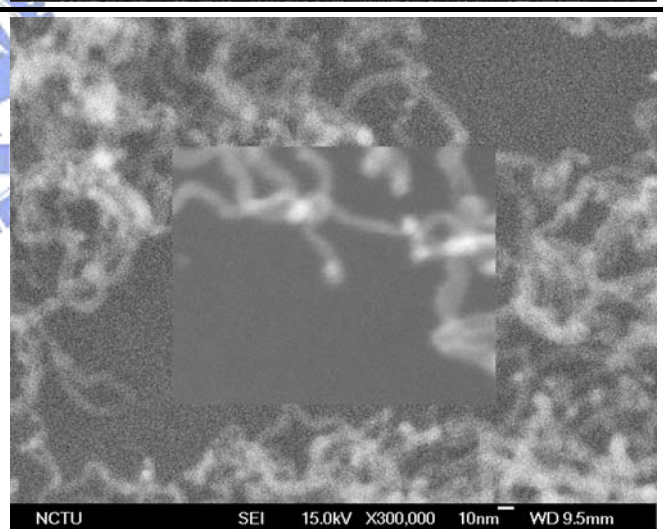
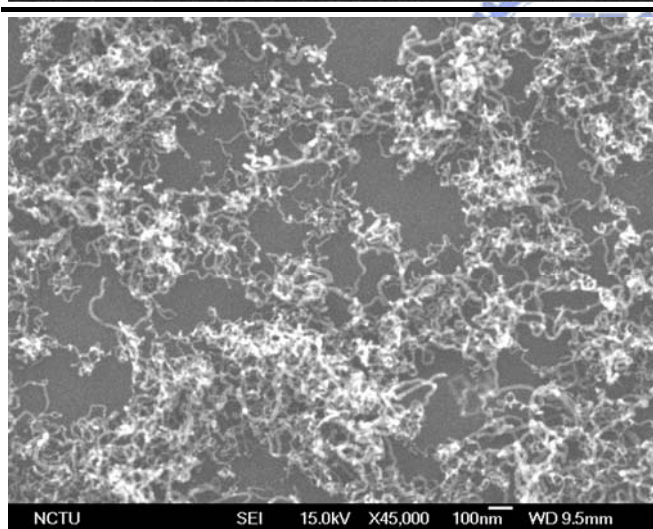
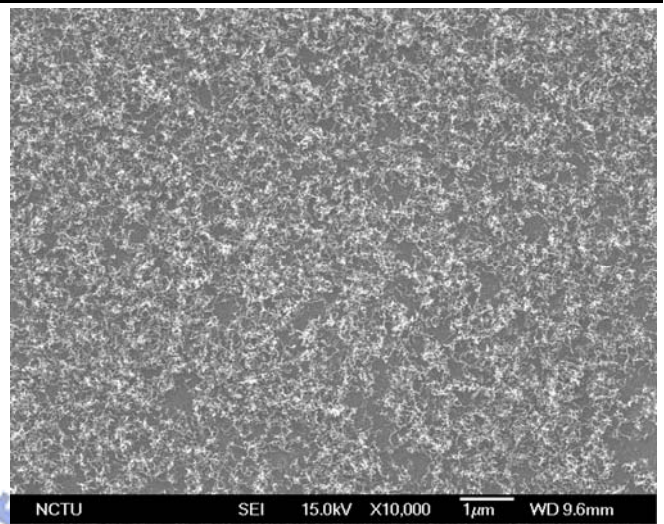
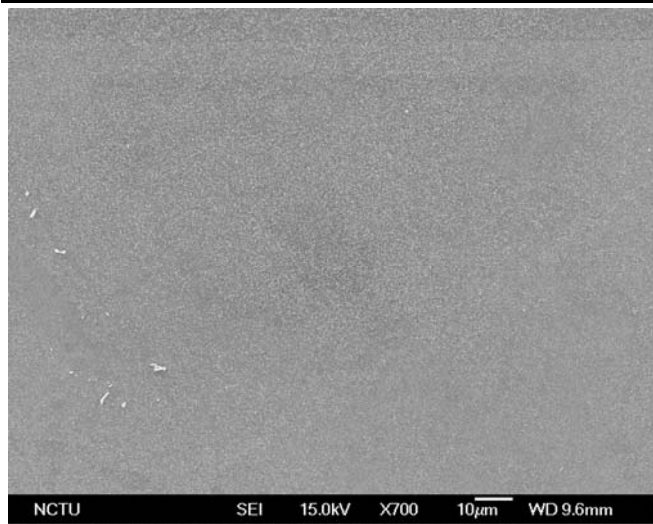
Specimen	A5	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Co	I	H ₂	100			30 torr	400 W	10 min	450°C
Substrate	Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	13.55	II	H ₂	50	CH ₄	5	20 torr	800W	6 min	590°C



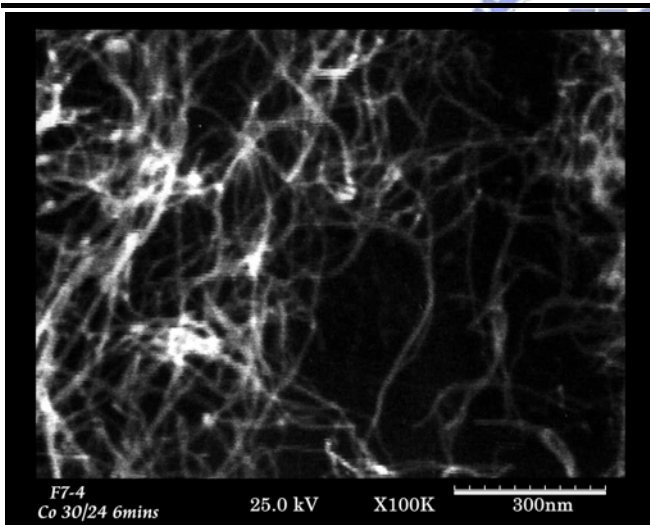
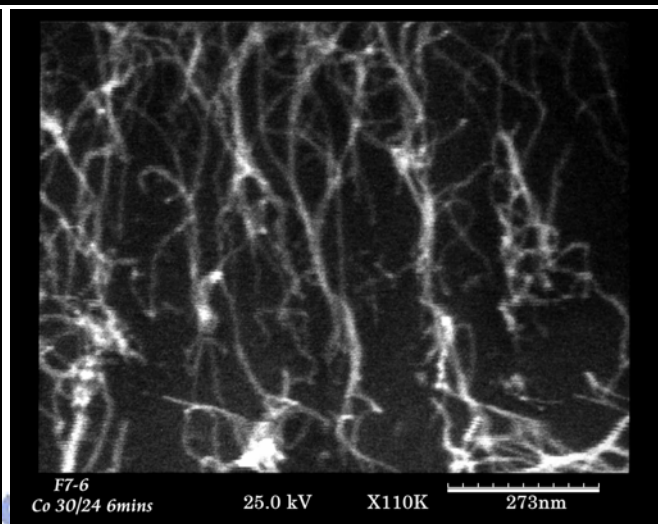
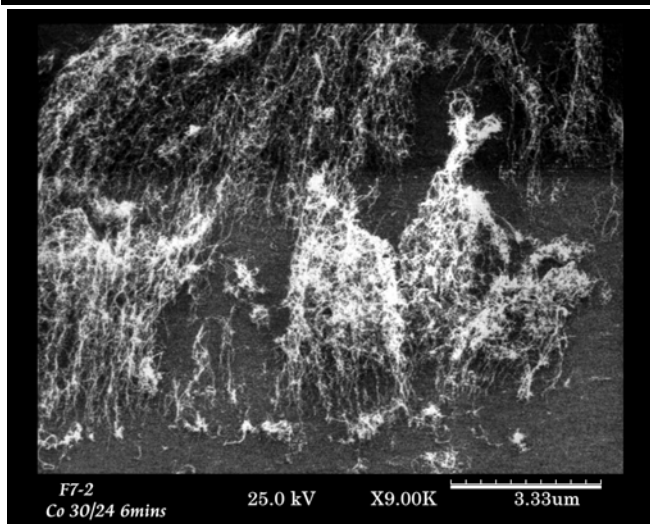
Specimen	A6	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Co	I	H ₂	100			30 torr	400 W	10 min	360°C
Substrate	SiO ₂	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	17.8	II	H ₂	50	CH ₄	5	20 torr	800W	6 min	580°C



Specimen	A7	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Co	I	H ₂	100			30 torr	400 W	10 min	460°C
Substrate	Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	8~9	II	H ₂	50	CH ₄	5	24 torr	800W	6 min	600°C

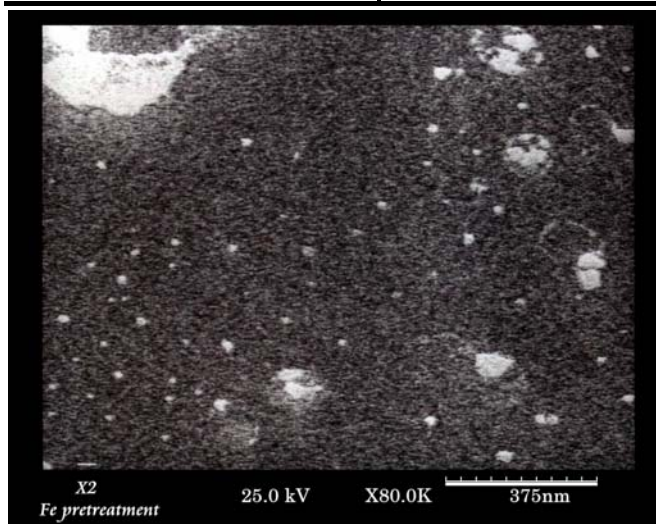


Specimen	A8	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Co	I	H ₂	100			30 torr	400 W	10 min	330°C
Substrate	SiO ₂	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	5.2~11	II	H ₂	50	CH ₄	5	24 torr	800W	6 min	590°C

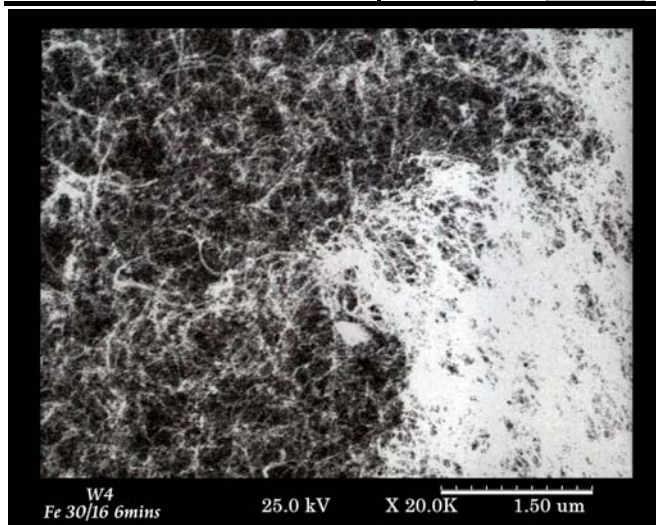


2. 編號 B 系列的鐵觸媒碳奈米管 SEM 影像圖

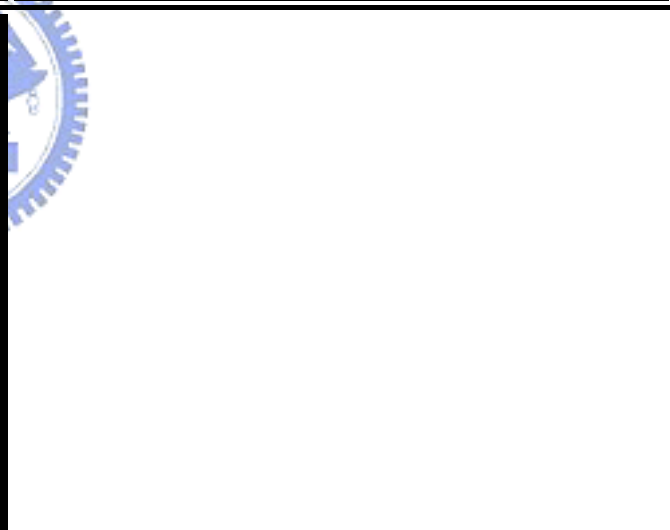
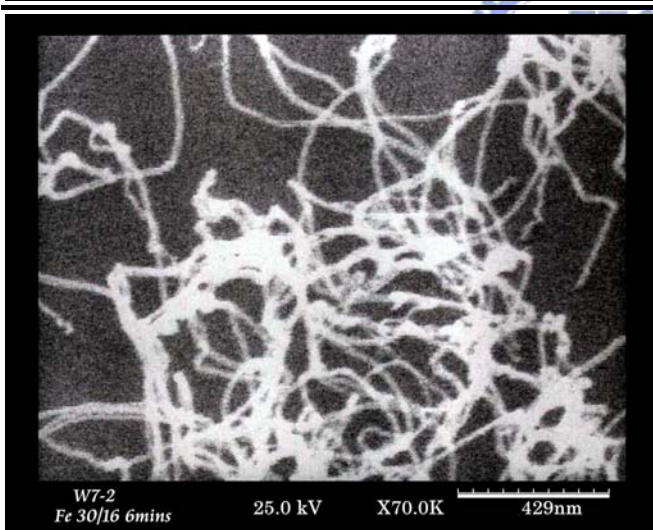
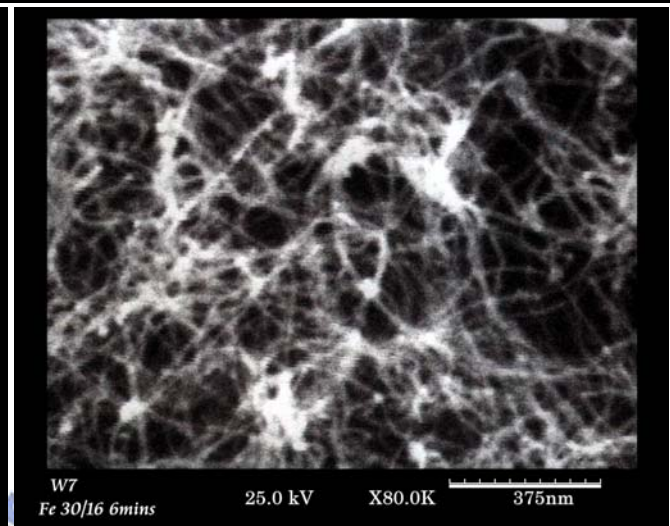
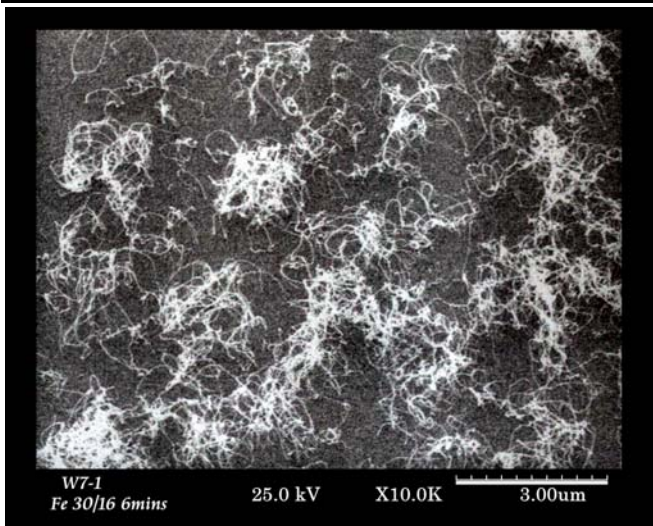
Specimen	B1	Step	Gas (sccm)			Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100		30 torr	400 W	10 min	360 °C
Substrate	Si	Step	Gas (sccm)			Pres	Power	Time	Temp
Diameter	Avg. 22.53	II							



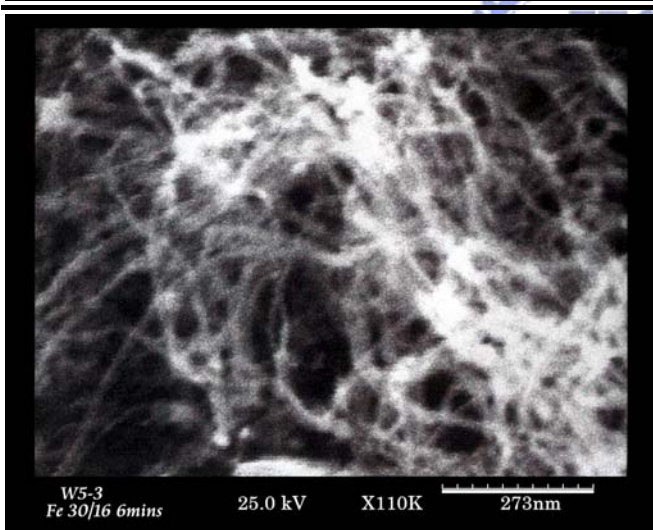
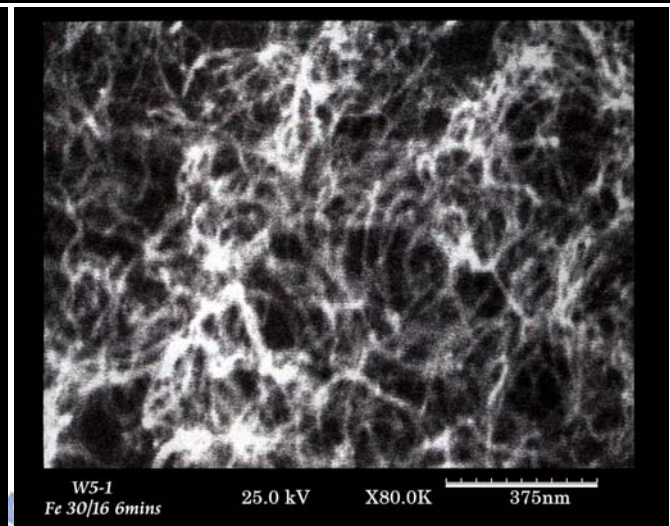
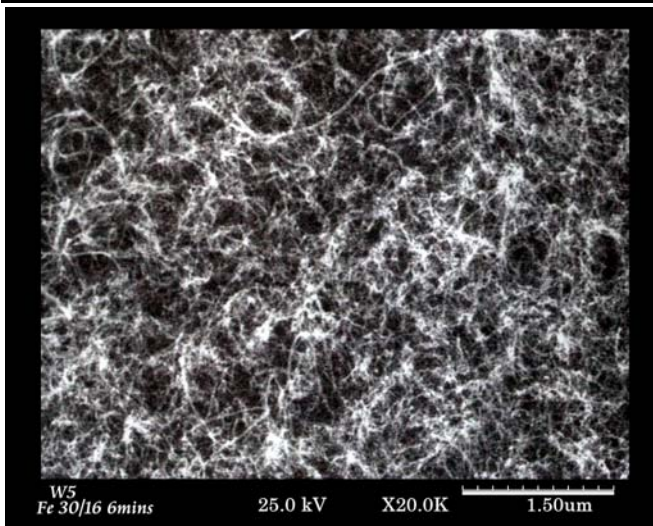
Specimen	B2	Step	Gas (sccm)			Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100		30 torr	400 W	10 min	390°C
Substrate	Si	Step	Gas (sccm)			Pres	Power	Time	Temp
Diameter	19~32	II	H ₂	50	CH ₄ 5	16 torr	800W	6 min	570°C



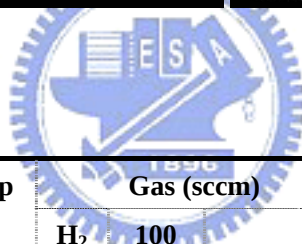
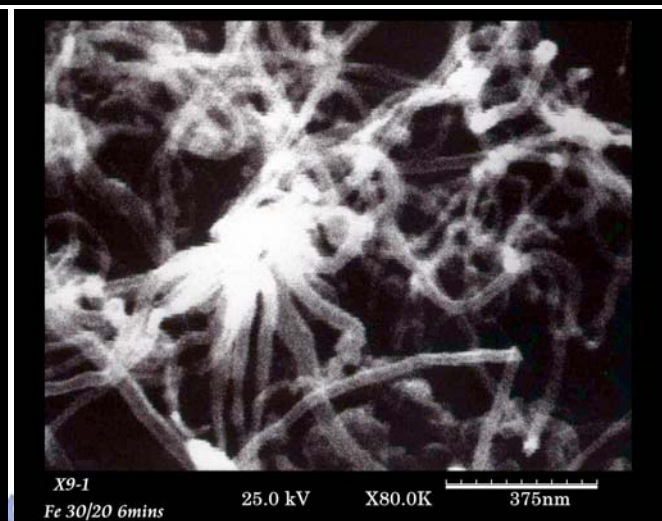
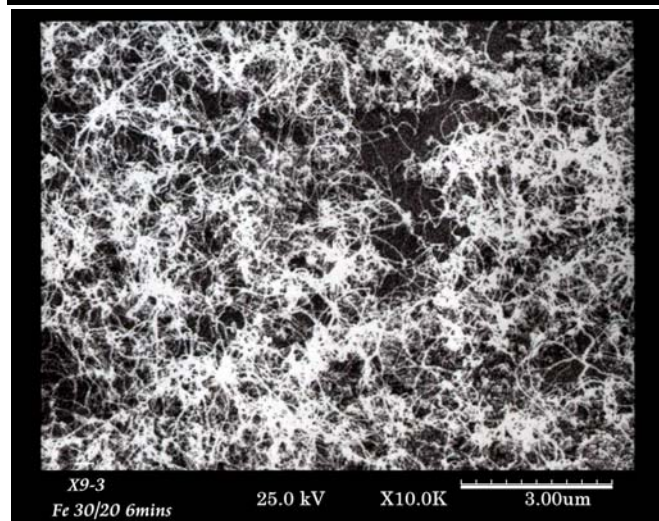
Specimen	B3	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100			30 torr	400 W	10 min	390°C
Substrate	SiO ₂	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	13~18	II	H ₂	50	CH ₄	5	16 torr	800W	6 min	570°C



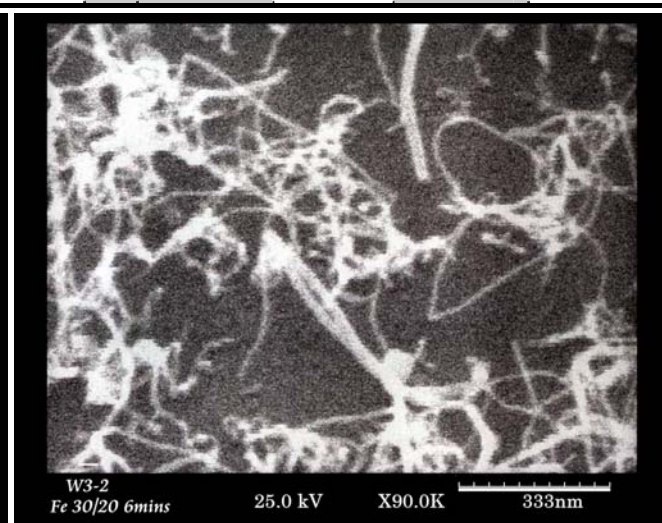
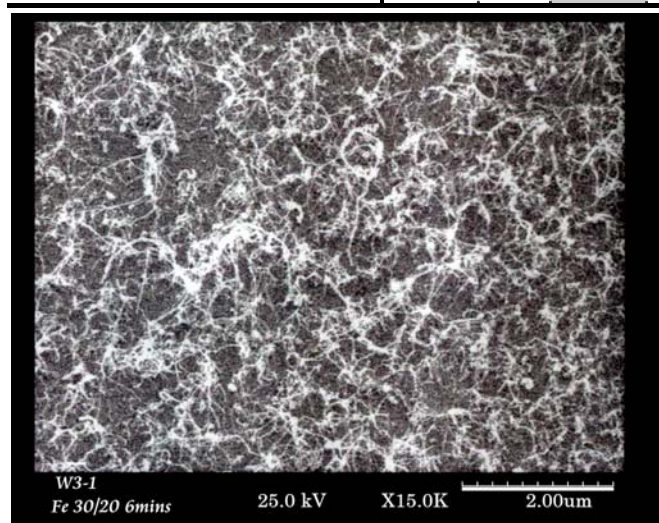
Specimen	B4	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100			30 torr	400 W	10 min	390°C
Substrate	a:Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	14~19	II	H ₂	50	CH ₄	5	16 torr	800W	6 min	570°C



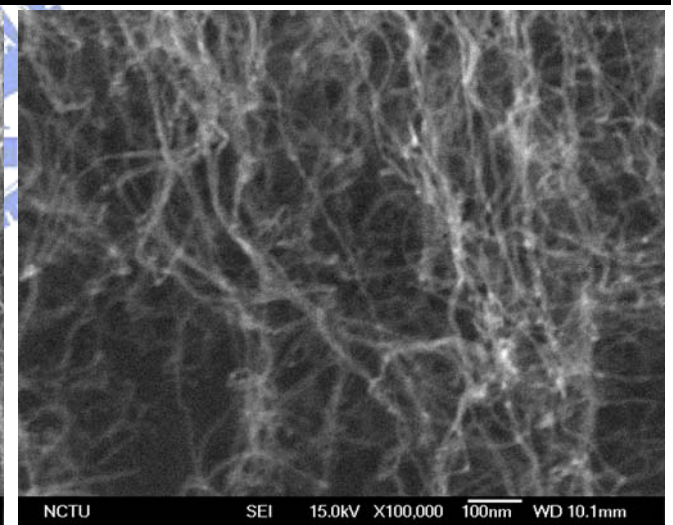
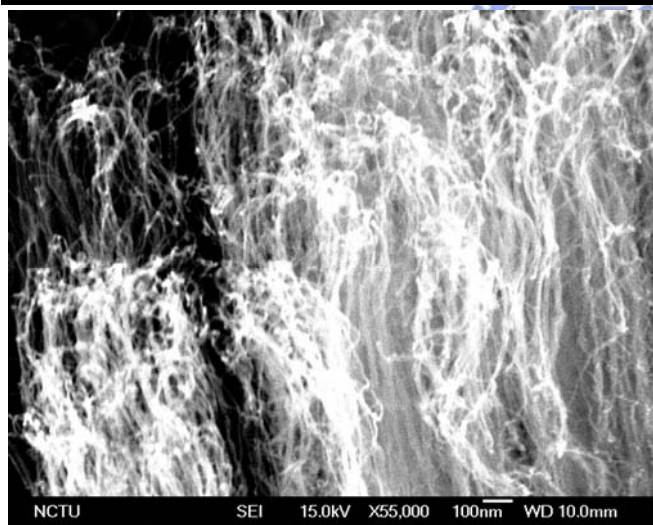
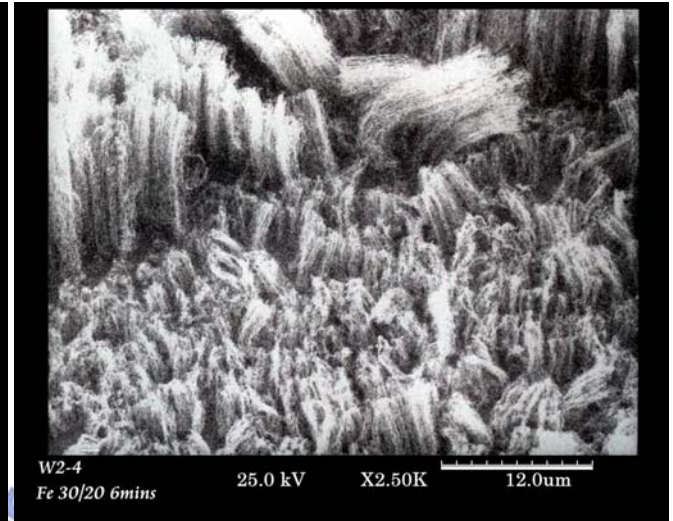
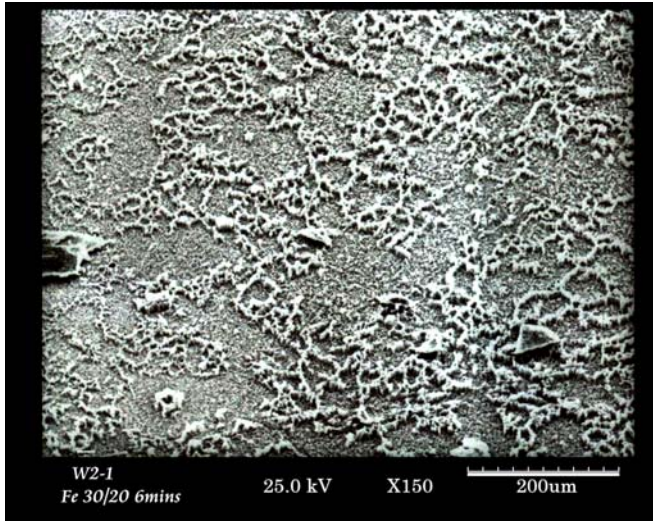
Specimen	B5	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100			30 torr	400 W	10 min	370°C
Substrate	Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	25~33	II	H ₂	50	CH ₄	5	20 torr	800W	6 min	585°C



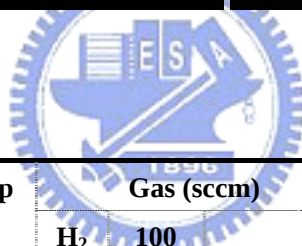
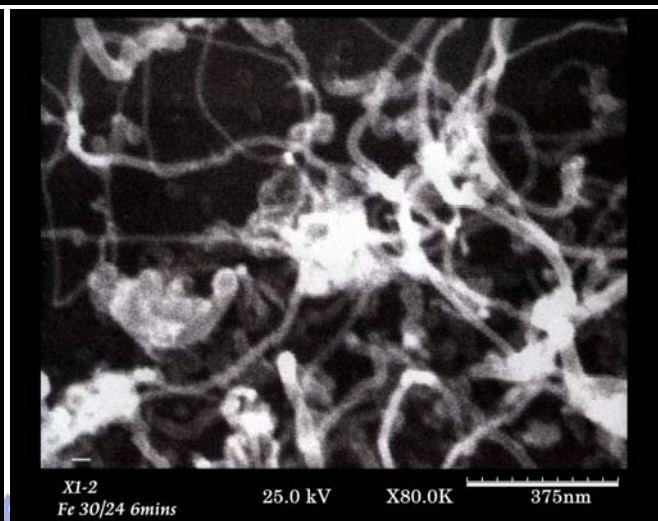
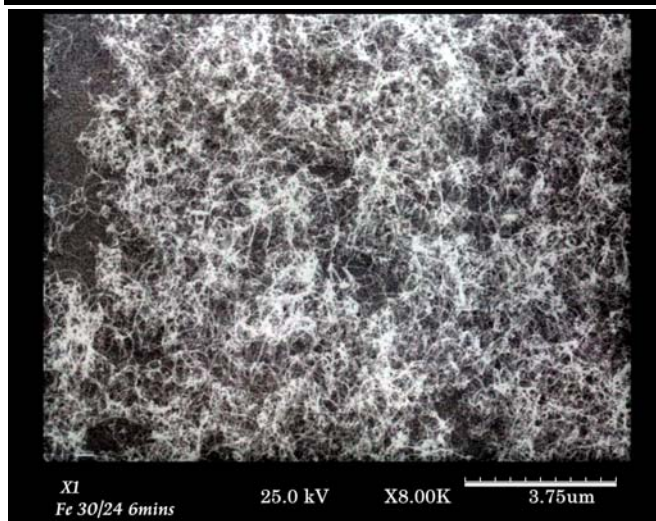
Specimen	B6	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100			30 torr	400 W	10 min	370°C
Substrate	SiO ₂	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	11~14	II	H ₂	50	CH ₄	5	20 torr	800W	6 min	585°C



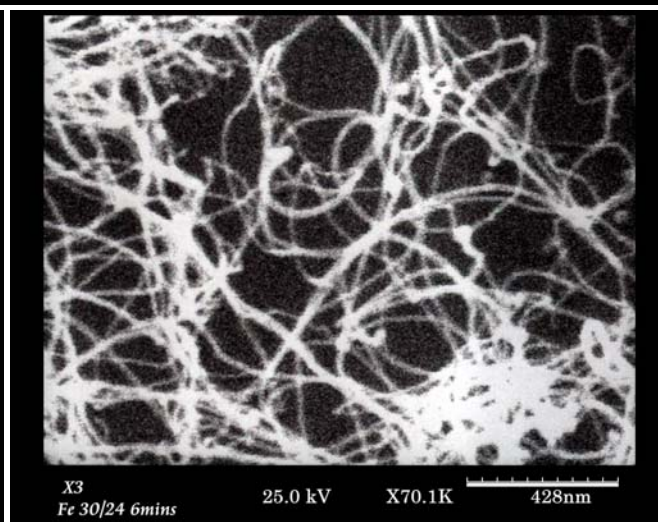
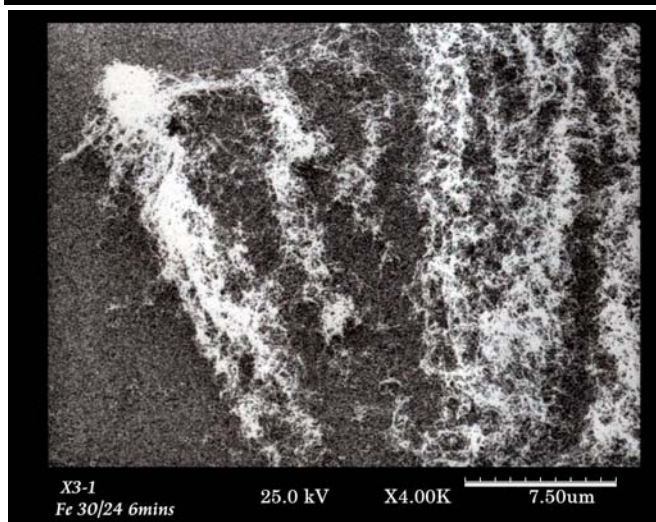
Specimen	B7	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100			30 torr	400 W	10 min	370°C
Substrate	a:Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	8~11	II	H ₂	50	CH ₄	5	20 torr	800W	6 min	585°C



Specimen	B8	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100			30 torr	400 W	10 min	324°C
Substrate	Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	20~30	II	H ₂	50	CH ₄	5	24 torr	800W	6 min	595°C



Specimen	B9	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100			30 torr	400 W	10 min	324°C
Substrate	SiO ₂	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	11~18	II	H ₂	50	CH ₄	5	24 torr	800W	6 min	595°C



Specimen	B10	Step	Gas (sccm)				Pres	Power	Time	Temp
Catalyst	Fe	I	H ₂	100			30 torr	400 W	10 min	324°C
Substrate	a:Si	Step	Gas (sccm)				Pres	Power	Time	Temp
Diameter	11~25	II	H ₂	50	CH ₄	5	24 torr	800W	6 min	595°C

