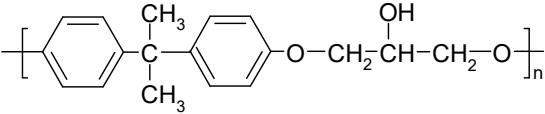
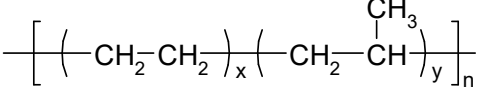
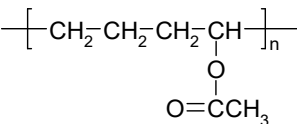
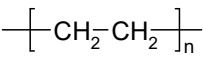
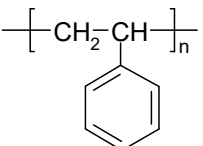
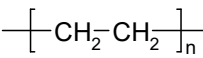
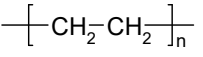
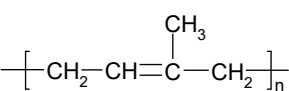
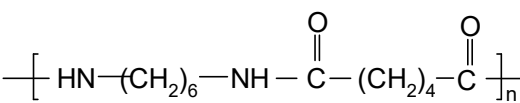
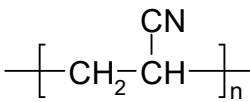
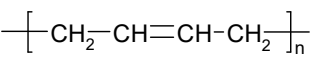
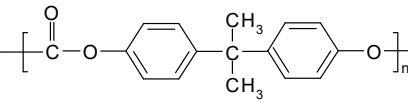


Vinyl: 乙烯基塑料 (聚氯乙烯)

ABS	丙烯腈丁二烯苯乙烯共聚		Acrylonitrile-butadiene-styrene
BR	顺丁橡胶		
CN	硝化纤维素		Cellulose nitrate
CPE	氯化聚乙烯		Chlorinated polyethylene
EP	环氧树脂		Epoxy, epoxide
EPM	乙烯-丙烯共聚物		Ethylene-propylene polymer
EVA	乙烯-醋酸乙烯共聚物		Ethylene/vinyl acetate
HDPE	高密度聚乙烯		High-density polyethylene plastics
HIPS	高抗冲聚苯乙烯		High impact polystyrene
LCP	液晶聚合物		Liquid crystal polymer
LDPE	低密度聚乙烯		Low-density polyethylene plastics
LLDPE	线性低密聚乙烯		Linear low-density polyethylene
MF	密胺-甲醛树脂		Melamine-formaldehyde resin
NR	天然橡胶		Natural rubber
PA — mn	聚酰胺(尼龙)、锦纶		Polyamide (nylon)
PAI	聚酰胺-酰亚胺		Polyamide-imide
PAN	聚丙烯腈		Polyacrylonitrile
PB	聚丁烯-[1]		Polybutene-1
PBT	聚对苯二酸丁二(醇)酯		Poly(butylene terephthalate)
PC	聚碳酸酯		Polycarbonate

PCTFE	聚三氟氯乙烯		Polychlorotrifluoroethylene
PE	聚乙烯	$\text{---}[\text{CH}_2\text{---CH}_2]\text{---}_n$	Polyethylene
PEEK	聚醚醚酮		Polyetheretherketone
PEO	聚环氧乙烷		Poly(ethylene oxide)
PES	聚醚砒		Poly(ether sulfone)
PET (PETE)	聚对苯二甲酸乙二(醇)酯 涤纶	$\text{---}[\text{C}(=\text{O})\text{---}\text{C}_6\text{H}_4\text{---}\text{C}(=\text{O})\text{---}\text{O---CH}_2\text{---CH}_2\text{---O}]\text{---}_n$	Poly(ethylene terephthalate)
PF	酚醛树脂	$\text{---}[\text{C}_6\text{H}_4(\text{OH})\text{---CH}_2]\text{---}_n$	Phenol-formaldehyde resin
PI	聚酰亚胺		Polyimide
PMMA	聚甲基丙烯酸甲酯	$\text{---}[\text{CH}_2\text{---}\overset{\text{CH}_3}{\underset{\text{COOCH}_3}{\text{C}}}\text{---}]\text{---}_n$	Poly(methyl methacrylate)
POM	聚甲醛	$\text{---}[\text{CH}_2\text{---O}]\text{---}_n$	Polyoxymethylene, polyacetal
PP	聚丙烯	$\text{---}[\text{CH}_2\text{---}\overset{\text{CH}_3}{\text{CH}}]\text{---}_n$	Polypropylene
PPO	聚苯醚		Poly(phenylene oxide) deprecated
PPS	聚苯硫醚		Poly(phenylene sulfide)
PS	聚苯乙烯	$\text{---}[\text{CH}_2\text{---}\underset{\text{C}_6\text{H}_5}{\text{CH}}]\text{---}_n$	Polystyrene
PSU	聚砒		Polysulfone
PTFE	聚四氟乙烯	$\text{---}[\text{CF}_2\text{---CF}_2]\text{---}_n$	Polytetrafluoroethylene
PUR	聚氨酯		Polyurethane
PVAC	聚醋酸乙烯(酯)	$\text{---}[\text{CH}_2\text{---}\underset{\text{O=CCH}_3}{\text{CH}}]\text{---}_n$	Poly(vinyl acetate)
PVAI	聚乙烯醇	$\text{---}[\text{CH}_2\text{---CH---O}]\text{---}_n$	Poly(vinyl alcohol)
PVB	聚乙烯醇缩丁醛		Poly(vinyl butyral)

PVC	聚氯乙烯	$\left[\text{CH}_2 - \underset{\text{Cl}}{\text{CH}} \right]_n$	Poly(vinyl chloride)
SBR	丁苯橡胶(苯乙烯 <25%)	$\left[\text{CH}_2 - \text{CH} = \text{CH} - \text{CH}_2 - \text{CH}_2 - \underset{\text{C}_6\text{H}_5}{\text{CH}} \right]_n$	Styrene butadiene rubber
SBS	苯乙烯-丁二烯嵌 段共聚		Styrene-butadiene block copolymer
SiR	聚硅氧烷	$\left[\underset{\text{CH}_3}{\overset{\text{CH}_3}{\text{Si}}} - \text{O} \right]_n$	Silicone rubber
PVDF	聚偏二氟乙烯	$\left[\text{CH}_2 - \text{CF}_2 \right]_n$	Poly(vinylidene fluoride)
UF	脲(甲)醛树脂		Urea-formaldehyde resin
UHMW PE	超高分子量聚乙 烯		Ultra-high molecular weight PE
UP	不饱和聚酯	$\left[\text{O} - \text{CH}_2 - \text{CH}_2 - \text{O} - \overset{\text{O}}{\parallel} \text{C} - \text{CH} = \text{CH} - \overset{\text{O}}{\parallel} \text{C} \right]_n$	Unsaturated polyester

ABS	丙烯腈丁二烯苯乙烯共聚		Acrylonitrile-butadiene-styrene
BR	顺丁橡胶		
CN	硝化纤维素		Cellulose nitrate
CPE	氯化聚乙烯		Chlorinated polyethylene
EP	环氧树脂	分子中含有环氧官能团的热固性聚合物(预聚体)	Epoxy, epoxide
EPM	乙烯-丙烯共聚物	$\text{-(CH}_2\text{-(CH}_2\text{))}_x\text{-(CH}_2\text{-CHCH}_3\text{))}_n\text{-}$	Ethylene-propylene polymer
EVA	乙烯-醋酸乙烯共聚物	$\text{-(CH}_2\text{-CH}_2\text{-CH}_2\text{-CH(OCOCH}_3\text{))}_n\text{-}$	Ethylene/vinyl acetate
HDPE	高密度聚乙烯	$\text{-(CH}_2\text{-CH}_2\text{)}_n\text{-}$	High-density polyethylene plastics
HIPS	高抗冲聚苯乙烯	$\text{-(CH}_2\text{-CH(C}_6\text{H}_5\text{))}_n\text{-}$	High impact polystyrene
LCP	液晶聚合物		Liquid crystal polymer
LDPE	低密度聚乙烯	$\text{-(CH}_2\text{-CH}_2\text{)}_n\text{-}$	Low-density polyethylene plastics
LLDPE	线性低密聚乙烯	$\text{-(CH}_2\text{-CH}_2\text{)}_n\text{-}$	Linear low-density polyethylene
MF	密胺-甲醛树脂		Melamine-formaldehyde resin
NR	天然橡胶	$\text{-(CH}_2\text{-CH=C(CH}_3\text{)-CH}_2\text{)}_n\text{-}$	Natural rubber
PA-mn	聚酰胺(尼龙)、锦纶	$\text{-(HN-(CH}_2\text{))}_m\text{-NH-OC-(CH}_2\text{))}_{n-2}\text{-CO}_n\text{-}$	Polyamide (nylon)
PAI	聚酰胺-酰亚胺		Polyamide-imide
PAN	聚丙烯腈	$\text{-(CH}_2\text{-CHCN)}_n\text{-}$	Polyacrylonitrile
PB	聚丁烯-[1]	$\text{-(CH}_2\text{-CH=CH-CH}_2\text{)}_n\text{-}$	Polybutene-1
PBT	聚对苯二酸丁二(醇)酯		Poly(butylene terephthalate)
PC	聚碳酸酯	$\text{-(COO-C}_6\text{H}_4\text{-C(CH}_3\text{))}_2\text{-C}_6\text{H}_4\text{-O)}_n\text{-}$	Polycarbonate
PCTFE	聚三氟氯乙烯		Polychlorotrifluoroethylene
PE	聚乙烯	$\text{-(CH}_2\text{-CH}_2\text{)}_n\text{-}$	Polyethylene
PEEK	聚醚醚酮		Polyetheretherketone
PEO	聚环氧乙烷		Poly(ethylene oxide)
PES	聚醚砜		Poly(ether sulfone)
PET 涤纶	聚对苯二甲酸乙二(醇)酯	$\text{-(O-CH}_2\text{-CH}_2\text{-O-OC-C}_6\text{H}_4\text{-CO)}_n\text{-}$	Poly(ethylene terephthalate)
PF	酚醛树脂	$\text{-(C}_6\text{H}_4\text{-CH}_2\text{)}_n\text{-}$	Phenol-formaldehyde resin
PI	聚酰亚胺		Polyimide
PMMA	聚甲基丙烯酸甲酯	$\text{-(CH}_2\text{-(H}_3\text{C)C(COOCH}_3\text{))}_n\text{-}$	Poly(methyl methacrylate)
POM	聚甲醛	$\text{-(CH}_2\text{-O)}_n\text{-}$	Polyoxymethylene, polyacetal
PP	聚丙烯	$\text{-(CH}_2\text{-CHCH}_3\text{)}_n\text{-}$	Polypropylene
PPO	聚苯醚		Poly(phenylene oxide) deprecated
PPS	聚苯硫醚		Poly(phenylene sulfide)
PS	聚苯乙烯	$\text{-(CH}_2\text{-CH(C}_6\text{H}_5\text{))}_n\text{-}$	Polystyrene
PSU	聚砜		Poly sulfone
PTFE	聚四氟乙烯	$\text{-(CF}_2\text{-CF}_2\text{)}_n\text{-}$	Polytetrafluoroethylene
PUR	聚氨酯		Polyurethane
PVA _C	聚醋酸乙烯(酯)	$\text{-(CH}_2\text{-CH(COOCH}_3\text{))}_n\text{-}$	Poly(vinyl acetate)
PVA _I	聚乙烯醇	$\text{-(CH}_2\text{-CHOH)}_n\text{-}$	Poly(vinyl alcohol)
PVB	聚乙烯醇缩丁醛		Poly(vinyl butyral)
PVC	聚氯乙烯	$\text{-(CH}_2\text{-CHCl)}_n\text{-}$	Poly(vinyl chloride)
SBR	丁苯橡胶(苯乙烯<25%)	$\text{-(CH}_2\text{-CH=CH-CH}_2\text{-CH}_2\text{-CH(C}_6\text{H}_5\text{))}_n\text{-}$	Styrene butadiene rubber
SBS	苯乙烯-丁二烯嵌段共聚		Styrene-butadiene block copolymer
SiR	聚硅氧烷		Silicone rubber
PVDF	聚偏二氟乙烯	$\text{-(CHF-CHF)}_n\text{-}$	Poly(vinylidene fluoride)
UF	脲(甲)醛树脂		Urea-formaldehyde resin
UHMWPE	超高分子量聚乙烯		Ultra-high molecular weight PE
UP	不饱和聚酯		Unsaturated polyester

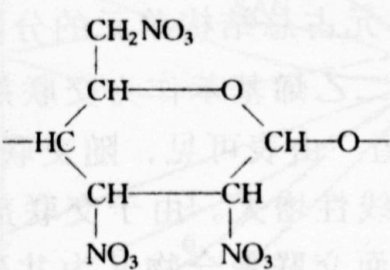
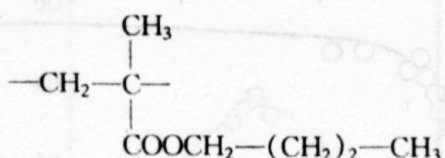
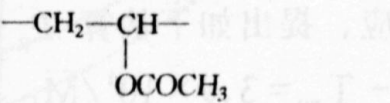
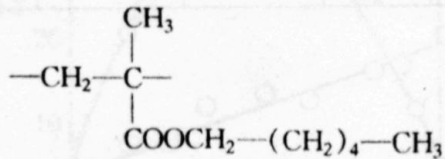
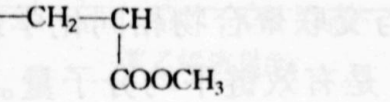
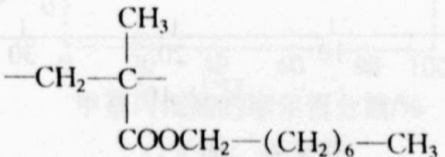
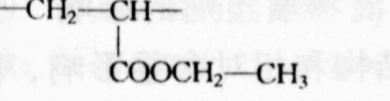
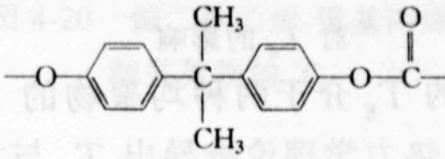
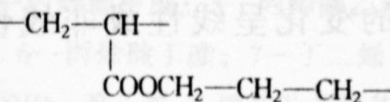
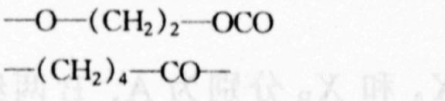
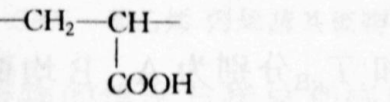
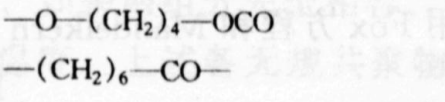
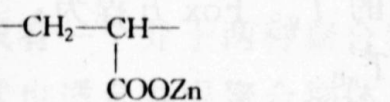
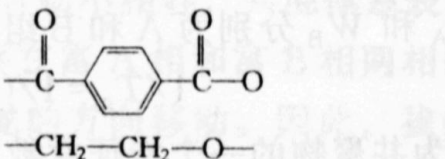
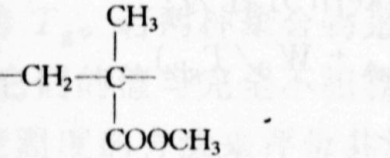
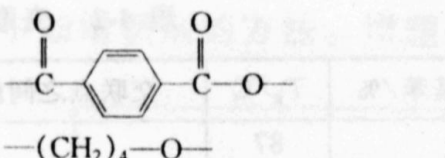
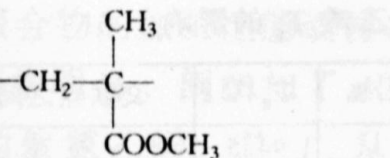
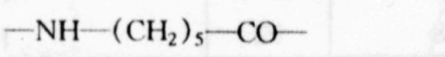
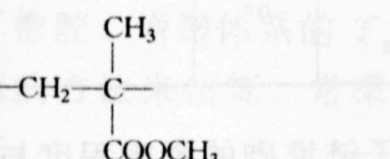
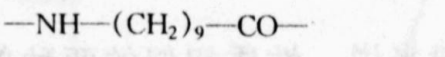
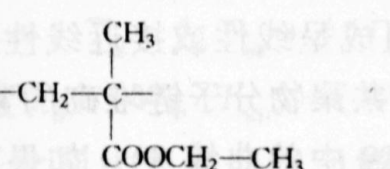
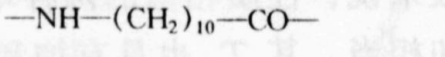
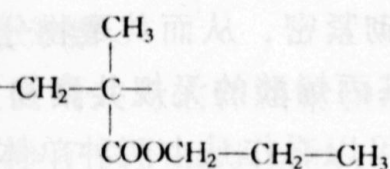
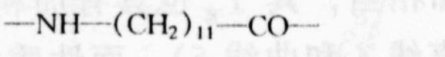
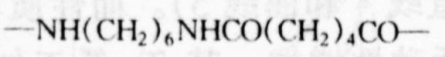
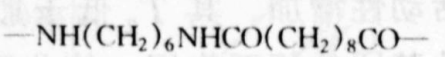
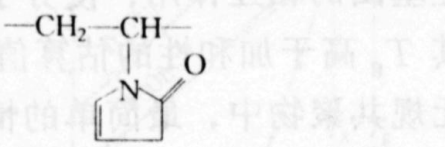



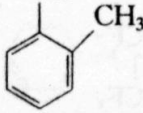
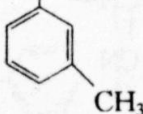
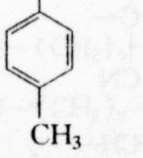
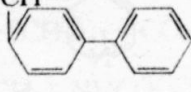
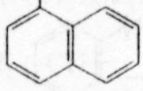
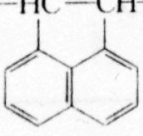

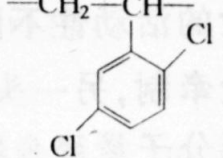
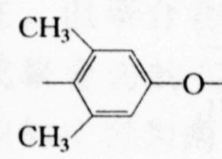
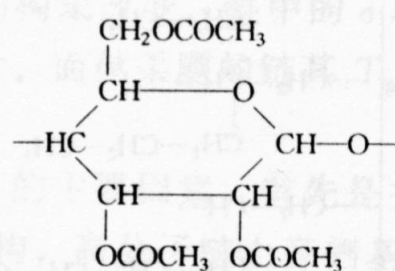
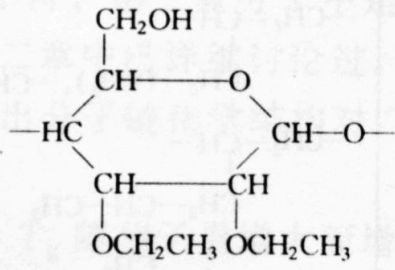
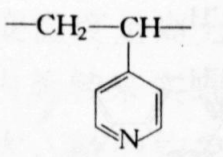
高聚物	重复单元	$T_g/^\circ\text{C}$	高聚物	重复单元	$T_g/^\circ\text{C}$
三硝酸纤维素		53	聚甲基丙烯酸正丁酯		21
聚乙酸乙烯酯		28	聚甲基丙烯酸正己酯		-5
聚丙烯酸甲酯		3(6)	聚甲基丙烯酸正辛酯		-20
聚丙烯酸乙酯		-24	聚碳酸酯		150
聚丙烯酸丁酯		-56	聚己二酸乙二酯		-70
聚丙烯酸		106(97)	聚辛二酸丁二酯		-57
聚丙烯酸锌		>300	聚对苯二甲酸乙二酯		69
聚甲基丙烯酸甲酯(无规)		105	聚对苯二甲酸丁二酯		40
聚甲基丙烯酸甲酯(间同)		115	尼龙6		50(40)
聚甲基丙烯酸甲酯(全同)		45(55)	尼龙10		42
聚甲基丙烯酸乙酯		65	尼龙11		43(45)
聚甲基丙烯酸正丙酯		35	尼龙12		42
			尼龙66		50(57)
			尼龙610		40(44)
			聚乙烯基吡咯酮		175

表 4-1 常见聚合物的玻璃化温度

高聚物	重复单元	$T_g/^\circ\text{C}$	高聚物	重复单元	$T_g/^\circ\text{C}$
聚乙烯	$-\text{CH}_2-\text{CH}_2-$	-68 (-120)	聚苯乙烯 (无规)	$-\text{CH}_2-\text{CH}-$ 	100 (105)
聚丙烯(全同)	$-\text{CH}_2-\text{CH}-$ $ \text{CH}_3$	-10	聚苯乙烯 (全同)	$-\text{CH}_2-\text{CH}-$ 	60
聚丙烯(间同)	$-\text{CH}_2-\text{CH}-$ $ \text{CH}_3$	-20	聚 α -甲基 苯乙烯	$-\text{CH}_2-\text{C}-$ $ \text{CH}_3$ 	192 (180)
聚异丁烯	$-\text{CH}_2-\text{C}-$ $ \text{CH}_3$ $ \text{CH}_3$	-70 (-73)	聚邻甲基苯 乙烯	$-\text{CH}_2-\text{CH}-$ 	119 (125)
聚异戊二烯 (顺式)	$-\text{CH}_2-\text{C}=\text{CH}-\text{CH}_2-$ $ \text{CH}_3$	-73	聚间甲基苯 乙烯	$-\text{CH}_2-\text{CH}-$ 	72(82)
聚异戊二烯 (反式)	$-\text{CH}_2-\text{C}=\text{CH}-\text{CH}_2-$ $ \text{CH}_3$	-60 (-58)	聚对甲基苯 乙烯	$-\text{CH}_2-\text{CH}-$ 	110 (126)
聚 1,4-顺- 丁二烯	$-\text{CH}_2-\text{CH}=\text{CH}-\text{CH}_2-$	-108 (-95)	聚对苯基苯 乙烯	$-\text{CH}_2-\text{CH}-$ 	138 (145)
聚 1,4-反- 丁二烯	$-\text{CH}_2-\text{CH}=\text{CH}-\text{CH}_2-$	-83 (-18)	聚 α -乙 烯 基 萘	$-\text{CH}_2-\text{CH}-$ 	162
聚 1,2-丁二 烯(全同)	$-\text{CH}_2-\text{CH}-$ $ \text{CH}=\text{CH}_2$	-4	聚萘烯	$-\text{HC}-\text{CH}-$ 	264 (321)
聚 1-丁烯	$-\text{CH}_2-\text{CH}-$ $ \text{CH}_2-\text{CH}_3$	-25	聚对氯苯乙 烯	$-\text{CH}_2-\text{CH}-$ 	128
聚 1-戊烯	$-\text{CH}_2-\text{CH}-$ $ \text{CH}_2-\text{CH}_2-\text{CH}_3$	-40			
聚 1-己烯	$-\text{CH}_2-\text{CH}-$ $ \text{CH}_2-\text{CH}_2-\text{CH}_2-\text{CH}_3$	-50			
聚 1-辛烯	$-\text{CH}_2-\text{CH}-$ $ \text{CH}_2-(\text{CH}_2)_4-\text{CH}_3$	-65			
聚 4-甲基- 1-戊烯	$-\text{CH}_2-\text{CH}-$ $ \text{CH}_2-\text{CH}-\text{CH}_3$ $ \text{CH}_3$	29(非 晶态)			

聚 2,5-二氯 苯乙烯		130 (115)	聚乙基乙烯 基醚	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{O—CH}_2\text{—CH}_3$	-25 (-42)
聚氟乙烯	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{F}$	40 (-20)	聚正丁基乙 烯基醚	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{O—CH}_2\text{—CH}_2\text{—CH}_2\text{—CH}_3$	-52 (-55)
聚氯乙烯	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{Cl}$	87(81)	聚异丁基乙 烯基醚	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{O—CH}_2\text{—CH—CH}_3$ $\quad\quad\quad\quad\quad\text{CH}_3$	-27 (-18)
聚偏二氟乙 烯	$\text{—CH}_2\text{—CF}_2\text{—}$	-40 (-46)	聚乙基叔 丁基醚	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{O—C—CH}_3$ $\quad\quad\quad\text{CH}_3\quad\text{CH}_3$	88
聚偏二氯乙 烯	$\text{—CH}_2\text{—CCl}_2\text{—}$	-19 (-17)	聚二甲基硅 氧烷	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{O—Si—CH}_3$ $\quad\quad\quad\text{CH}_3$	-123
聚 1,2-二氯 乙烯	—CH—CH— $\quad\quad\quad\text{Cl}\quad\text{Cl}$	145	聚苯醚		220 (210)
聚氯丁二烯	$\text{—CH}_2\text{—C=CH—CH}_2\text{—}$ $\quad\quad\quad\text{Cl}$	-45	聚氯醚	$\text{—CH}_2\text{—C—CH}_2\text{—O—}$ $\quad\quad\quad\text{CH}_2\text{Cl}\quad\text{CH}_2\text{Cl}$	10
聚三氟氯乙 烯	$\text{—CF}_2\text{—CF—}$ $\quad\quad\quad\text{Cl}$	45	聚乙烯醇	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{OH}$	85
聚四氟乙烯	$\text{—CF}_2\text{—CF}_2\text{—}$	117	聚乙基甲 醛	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{CHO}$	105
聚全氟丙烯	$\text{—CF}_2\text{—CF—}$ $\quad\quad\quad\text{CF}_3$	11	聚乙基丁 醛	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{CH}_2\text{—CH}_2\text{—CH}_2\text{—CHO}$	49(59)
聚丙烯腈 (间同)	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{CN}$	104 (130)	三醋酸纤维 素		105
聚甲基丙烯 腈	$\text{—CH}_2\text{—C—}$ $\quad\quad\quad\text{CH}_3$ $\quad\quad\quad\text{CN}$	120	乙基纤维素		43
聚乙基吡 啶	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{Pyridine ring}$	8			
聚乙基吡 啶		208 (150)			
聚甲醛	$\text{—CH}_2\text{—O—}$	-83 (-50)			
聚氧化乙烯	$\text{—CH}_2\text{—CH}_2\text{—O—}$	-66 (-53)			
聚甲基乙烯 基醚	$\text{—CH}_2\text{—CH—}$ $\quad\quad\quad\text{O—CH}_3$	-13 (-20)			