CHAPTER V
SUMMARY AND RECOMMENDATION

The double reptation theory can give a good prediction for a linear polymer, polystyrene, in the terminal regime but fails in high frequency regime. For branched polymers, high density polyethylene and low density polyethylene, the double reptation model shows a discrepancy in all range of frequency. The effect of long-chain branching causes the discrepancy in the low frequency regime. Low density polyethylene has higher degree of long-chain branching than high density polyethylene, therefore the prediction of low density polyethylene deviates from the experimental data more than high density polyethylene.

Table 4.1 Summary of HDPE, LDPE, and PS Parameters

Materials		K (sec)	G_N^o (Pa)	T (°C)
HDPE	H5604F	$6x10^{-18}$	$2.6x10^6$	190
	H5840B	$6x10^{-18}$	$2.6x10^6$	190
	H5690S	$6x10^{-18}$	$2.6x10^6$	190
LDPE	S1018	$1x10^{-21}$	$2.6x10^6$	190
	LD2130FA	$1x10^{-11}$	$2.6x10^6$	190
	D2022	$1x10^{-11}$	$2.6x10^6$	190
PS	PS	$1x10^{-18}$	$2x10^5$	160

Further work is to test whether the modified dual constraint model works well for branch chain polymer with polydispersity, high density polyethylene and low density polyethylene.