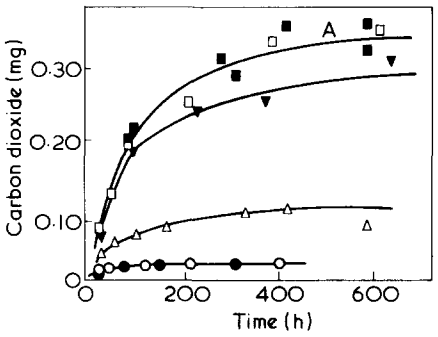

Figure 2 Effects of additives on the production of carbon dioxide during the decomposition at 60°C of 1 mg of benzoyl peroxide in 2 cm^3 benzene: ●, *p*-ethyl anisole (0.25M); ○, *N*-ethyl carbazole (0.26M); △, poly(*N*-vinyl carbazole) (0.102M in monomer units); ▼, poly(*p*-methoxystyrene) (0.106M in monomer units); □, poly(methyl methacrylate) (0.102M in monomer units); ■, polystyrene (0.102M in monomer units). Line A: pure benzene[6]

groups became attached to polyVCZ in the early stages of the treatment of the polymer with ^{14}C–BPO; it is likely that these groups are responsible for the subsequent changes in the polymer. There were only small changes in $\bar{M}_n$ and $\bar{M}_w$ when solutions of polyVCZ in pure benzene or in benzene containing azoisobutyronitrile were kept at 60°C for periods up to 600 h. It has been shown[8] that, during the thermal degradation of polyVCZ, the distribution of molecular weights broadens probably because of the formation of branched polymers.

The significance of the results presented here will be discussed in a subsequent publication concerned with the polymerizations of VCZ and MOS initiated by BPO.

Table 1 Effects upon poly(*N*-vinyl carbazole) of treatment at 60°C with benzoyl peroxide in benzene

Time (h)	$\bar{M}_n/10^3$	$\bar{M}_w/10^3$	$\bar{M}_w/\bar{M}_n$
0	36.4	286.1	7.86
24	36.8	250.1	6.80
96	33.5	564.4	16.85
329	22.9	1207.7	52.74
600	52.3	1263.0	24.15

Concentration of polyVCZ = 0.102M in terms of monomer units; initial concentration of BPO = 0.5 g/dm^3

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