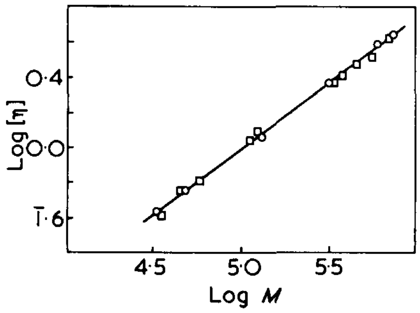

Figure 1 Double logarithmic plot of the data in *Table 1*: ○, fraction of polypropylene ZN; □, fraction of polypropylene HM; ——, linear regression of log [η]— log *M* for all the data of *Table 1*

where $d = \bar{M}_w/\bar{M}_n$ and a is the exponent of the Mark–Houwink equation.

Hence, within the reliability limits of the hypothesis, the [η] –M relationships are no longer influenced by the residual dispersity, and coincide with the relationships that might be obtained with more strictly monodispersed samples.

For this reason the molecular weight values reported in the Table were determined by using the $\bar{M}_w$ data of light scattering and the d values of the third column with $a = 0.74$ as obtained from the literature[6].

Using a linear data regression we have calculated the Mark–Houwink relationships for the two polypropylenes from the second and the fourth column of the Table. Such relationships are practically equivalent. As a matter of fact by applying them to molecular weights of 3 x 10^4 and 7 x 10^4, which represent the extremes of the molecular weight range examined by us, differences in [η] respectively of ~1% and ~4% are obtained. Such differences are well within the experimental errors.

This fact is realized in the double logarithmic plot (*Figure 1*) where [η] and *M* values for the two polypropylenes are reported. In it the straight line has been calculated using the linear regression of all [η] –*M* data of the Table and it follows that:

$$[\eta] = 1.81 \times 10^{-4} M^{0.745} \qquad (2)$$

Equation (2) is quite similar to that we previously found by osmotic measurements on very narrow ZN polypropylene fractions prepared by adopting a different fractionation technique[6]:

$$[\eta] = 1.93 \times 10^{-4} M^{0.74} \qquad (3)$$

As a matter of fact, for *M* ranging between 10^4 and 10^6, the [η] calculated by equations (2) and (3) give values which differ at most by 1.7%.

Hence isotactic *ZN* polypropylene and isotactic *HM* polypropylene do not show any noticeable difference in the rheologic and structural behaviours of dilute solutions; in particular, on the basis of the [η] –*M* relationship, isotactic *HM* polypropylene can be considered to consist of highly linear chains.

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Editorial Announcement

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IPC Science and Technology Press are pleased to announce the launch of a new journal INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES to be published alternate monthly from April 1979.

As a result from January 1979, POLYMER will no longer feature papers on biopolymers or biological macromolecules. Authors, who would normally submit papers in this field to POLYMER are invited to submit their papers to INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES'. Authors can expect the same high scientific, editorial and production standards set by POLYMER.

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