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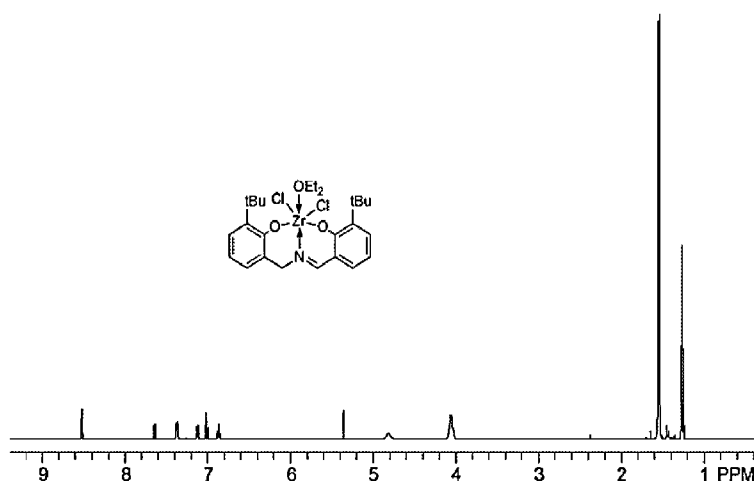
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(54) Title: NOVEL CATALYST COMPOSITIONS AND METHOD OF MAKING AND USING THE SAME FOR THE POLYMERIZATION OF OLEFIN, HIGH DENSITY POLYETHYLENE



$$((t\text{Bu})_2\text{ZrCl}_2(\text{Et}_2\text{O}))$$

Figure 1

(57) Abstract: An ethylene polymer having (i) a density defined by equation (1) $\rho > a - b \log M$ (1) where ρ is a density of the polymer in g/cc, $\log M$ is a log weight average molecular weight of the polymer, a is about 1.0407, and b is about 0.0145; and (ii) a polydispersity index of greater than about 5.



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