

$$\% \text{ Crystallinity} = ((H_f)/(292 \text{ J/g})) \times 100$$

Equation 1

FIG. 1

$$gi' = (IV_{\text{Sample},i} / IV_{\text{linear reference},j})$$

Equation 2

FIG. 2

$$\left[\frac{IV_{\text{Sample},i}}{IV_{\text{linear reference},j}} \right]^{1.33} = \left[\left[1 + \frac{B_{n,i}}{7} \right]^{1/2} + \frac{4}{9} \frac{B_{n,i}}{\pi} \right]^{-1/2} M_{i=j}$$

Equation 3

FIG. 3

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$$LCBF = \frac{\sum_i \left[\frac{B_{n,i}}{M_i = 114000} c_i \right]}{M = 3500}$$

Equation 4

FIG. 4

$$M_{PE} = \left(\frac{K_{PS}}{K_{PE}} \right)^{1/a_{PE}+1} \cdot M_{PS}^{a_{PS}+1/a_{PE}+1} \quad [\eta]_{PE} = K_{PS} \cdot M_{PS}^{a+1} / M_{PE}$$

Equation 6

FIG. 6

Equation 5

FIG. 5

$$M_w = \sum_i w_i M_i = \sum_i \left(\frac{C_i}{\sum_i C_i} \right) M_i = \frac{\sum_i C_i M_i}{\sum_i C_i} = \frac{\sum_i LS_i}{\sum_i C_i} = \frac{LS \text{ Area}}{Conc. \text{ Area}}$$

Equation 7

FIG. 7

$$IV = [\eta] = \sum_i w_i IV_i = \sum_i \left(\frac{C_i}{\sum_i C_i} \right) IV_i = \frac{\sum_i C_i IV_i}{\sum_i C_i} = \frac{\sum_i DP_i}{\sum_i C_i} = \frac{DP \text{ Area}}{Conc. \text{ Area}}$$

Equation 8

FIG. 8

$$MW_{cc} = \sum_i \left(\frac{C_i}{\sum_i C_i} \right) M_i = \sum_i w_i \cdot M_i \quad [\eta]_{cc} = \sum_i \left(\frac{C_i}{\sum_i C_i} \right) IV_i = \sum_i w_i \cdot IV_i$$

Equation 9

Equation 10

FIG. 9

FIG. 10

$$gpcBR = \left[\left(\frac{[\eta]_{cc}}{[\eta]} \right) \cdot \left(\frac{M_w}{M_{w,cc}} \right)^{a_{PE}} - 1 \right]$$

Equation 11

FIG. 11

$$Resolution = \frac{\text{Peak temperature of NIST 1475a - Peak Temperature of Hexacontane}}{\text{Half - height Width of NIST 1475a} + \text{Half - height Width of Hexacontane}}$$

Equation 12

FIG. 12

$$CDC = \frac{\text{Comonomer Distribution Index}}{\text{Comonomer Distribution Shape Factor}} = \frac{\text{Comonomer Distribution Index}}{\text{Half Width/Stddev}} * 100$$

Equation 13

$$119.0 \int_{35}^{T_{\text{median}}} w_T(T) dT = 1 \quad \text{FIG. 13} \quad \int_{35}^{T_{\text{median}}} w_T(T) dT = 0.5$$

Equation 14

Equation 15

FIG. 14

FIG. 15

$$1n(1-\text{comonomercontent}) = - \frac{207.26}{273.12 + T} + 0.5533$$

$$R^2 = 0.997$$

Equation 16

FIG. 16

$$Stdev = \sqrt{\sum_{35.0}^{119.0} (T - T_p)^2 \cdot w_T(T)}$$

Equation 17

FIG. 17

$$ZSVR = \frac{\eta_{0B}}{\eta_{0L}}$$

Equation 18

FIG. 18

$$\eta_{0L} = 2.29 \times 10^{-15} M_{w-gpc}^{3.65}$$

Equation 19

FIG. 19

$$M_{polyethylene} = A(M_{polystyrene})^B$$

Equation 20

FIG. 20