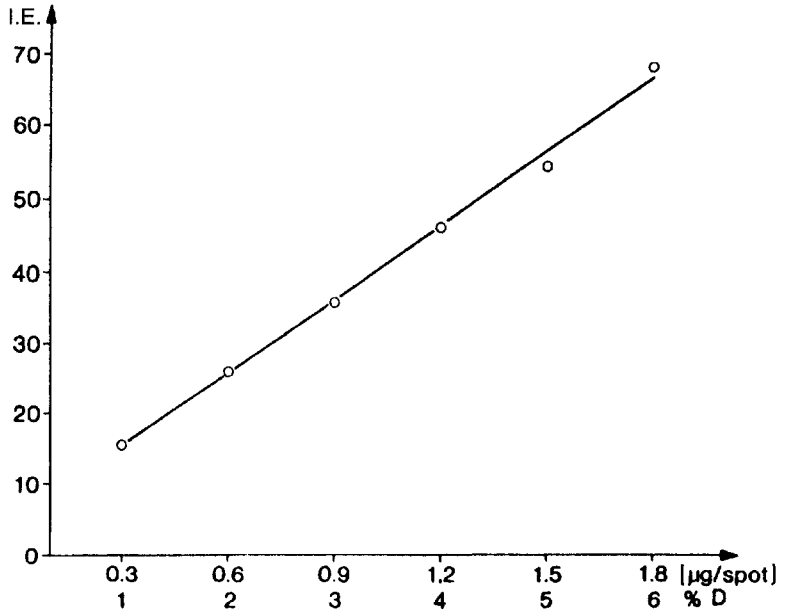

Figure 27 Calibration line for D-hydroxyphenylalanine (V). I.E. = integration units; $y = 4.91 + 34.2x$; $r = 0.9981$; $S_{xo} = 0.038$ µg/spot; $\lambda = 590$ nm.

d. α-Hydroxyphenylalanine. The remission-location curve (Fig. 26) and the calibration curve (Fig. 27) show good evaluation of the amount of D-enantiomer in the working range 1–6%.

XIII. CONCLUSION

This review does not claim completeness. We intended to demonstrate for a few selected examples the present possibilities of thin-layer chromatographic enantiomeric separations. Emphasis was placed on racemate separations with commercial plates based on cellulose, cellulose triacetate, Chiralplate, and HPTLC-CHIR, with detailed descriptions of the respective separation procedures and applications.

Because precise determinations of minute D- or L-concentrations in an excess of the other enantiomer become more and more important, the quantification of TLC-separated antipodes was treated explicitly. Further optimization of separation parameters and detection by fluorescence should enable improvement of the present detection limit of ≥0.1% D- or L-component. Here it is worth mentioning that only the layers based on LEC with the 4-hydroxyproline selector are generally accepted, and these are the only ready-to-use plates commercially available on the market.

Compared to the classical methods of GC and HPLC, the TLC enantiomeric separation technique implies parallel (simultaneous) separations and is therefore especially well suited for economical routine analyses.

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