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## Impact and Amplification of Chirality in the Aggregation of Leucine-Appended Poly(*p*-phenylene ethynylene) (PPE)

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### Abstract

A leucine-appended poly(*p*-phenyleneethynylene) (PPE) was prepared in enantiomeric stereoregular (L-1 and D-1) and stereorandom (rac-1) forms. The solution aggregates of L-1, D-1, rac-1, and mixtures of L-1/D-1, were characterized by absorption, electronic circular dichroism and emission spectra. Both rac-1 and L-1/D-1 mixtures are more prone to aggregate than L-1 and D-1. Upon aggregating, the enantiomeric mixtures manifest an apparent majority-rules effect, which is mostly due to the greater tendency to form heterochiral aggregates with respect to homochiral ones. The impact of chirality on the aggregation behaviour of the aminoacid-appended PPE is demonstrated.

*Keywords:* conjugated polymers; chiral polymers; electronic circular dichroism; fluorescence quenching; supramolecular structure

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