

Supplemental Information

**Tardigrades Use Intrinsically Disordered
Proteins to Survive Desiccation**

Thomas C. Boothby, Hugo Tapia, Alexandra H. Brozena, Samantha Piszkiewicz, Austin E. Smith, Ilaria Giovannini, Lorena Rebecchi, Gary J. Pielak, Doug Koshland, and Bob Goldstein

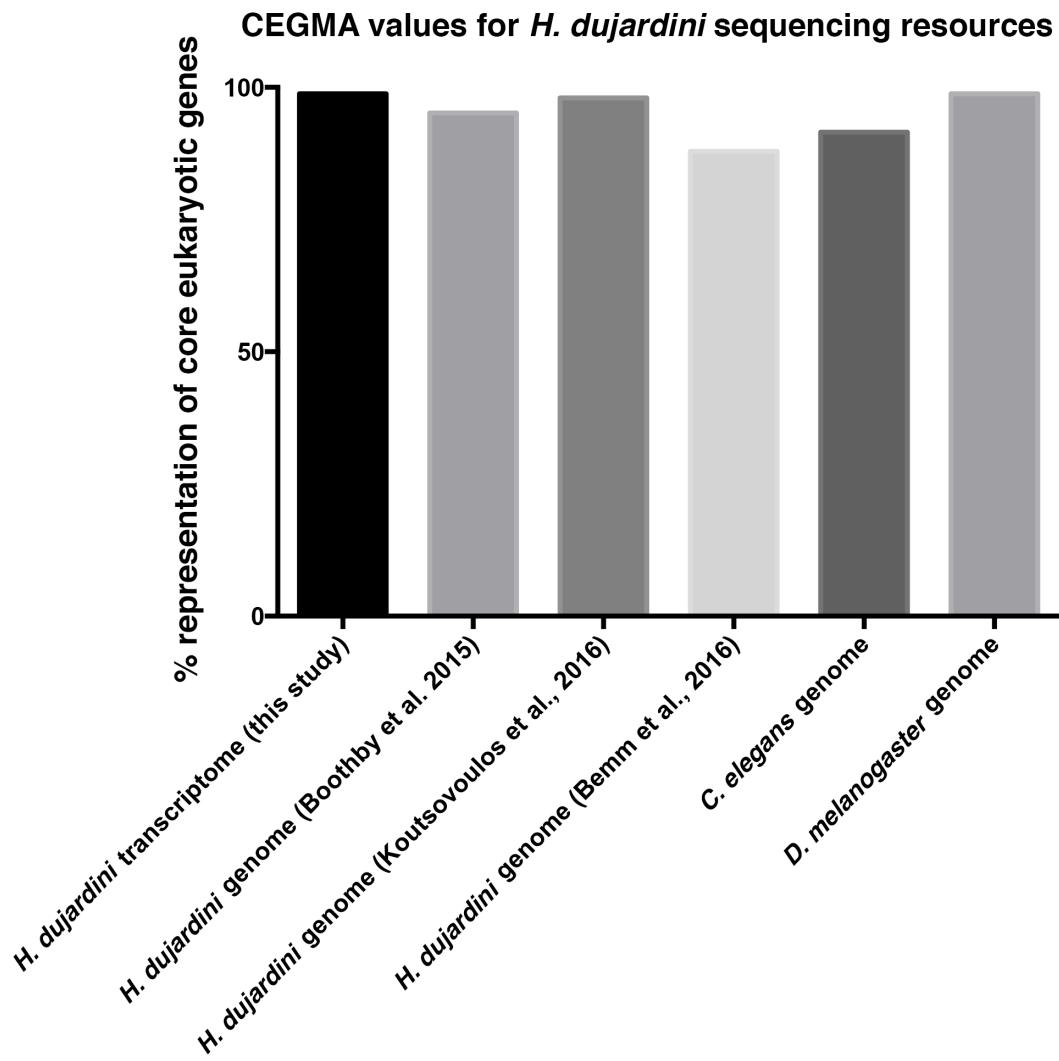


Figure S1. Related to Figure 1 Assessment of Core Eukaryotic genes within Our Transcriptome Assembly

Graph showing the percent of core eukaryotic genes (partial) contained within our *H. dujardini* transcriptome assembly, an independent *H. dujardini* transcriptome assembly (Levin et al., 2016), multiple *H. dujardini* genome assemblies (Bemm et al., 2016; Boothby et al., 2015; Koutsovoulos et al., 2016), and genome assemblies from well sequenced model invertebrates (*C. elegans* and *D. melanogaster*). CEMGA values for *C. elegans* and *D. melanogaster* were obtained from (Wang et al., 2014).

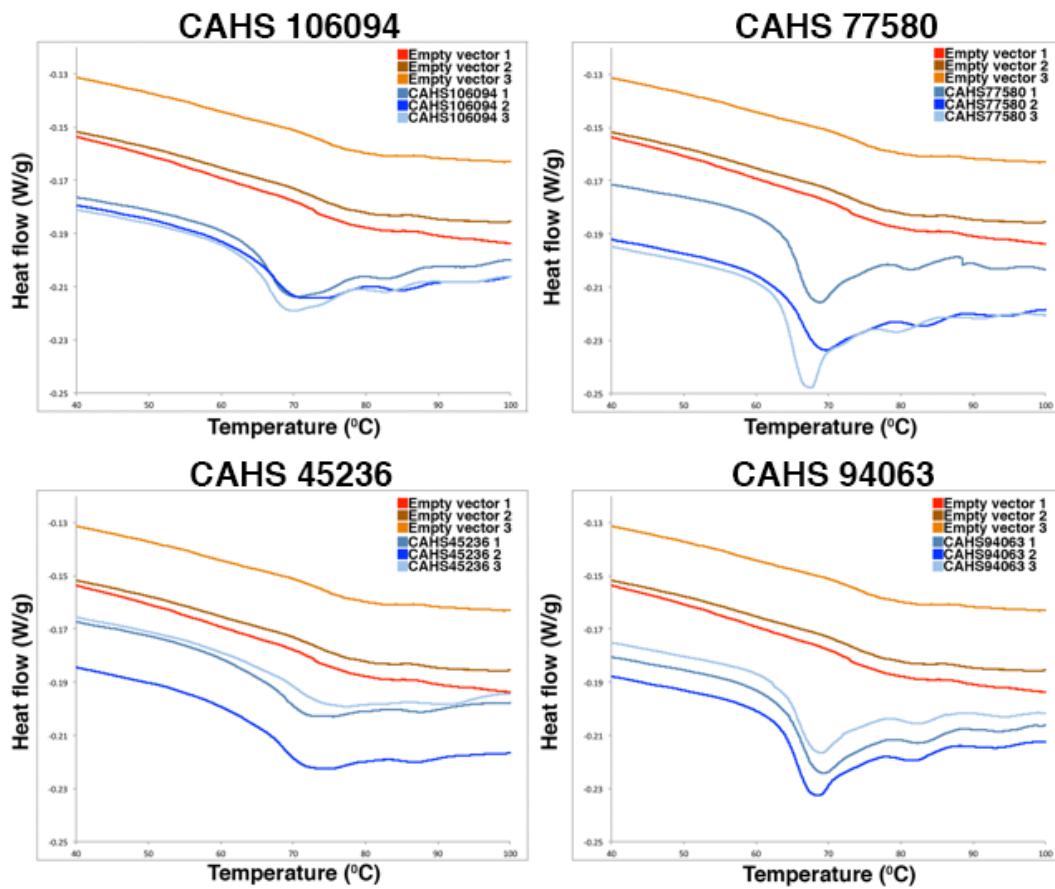


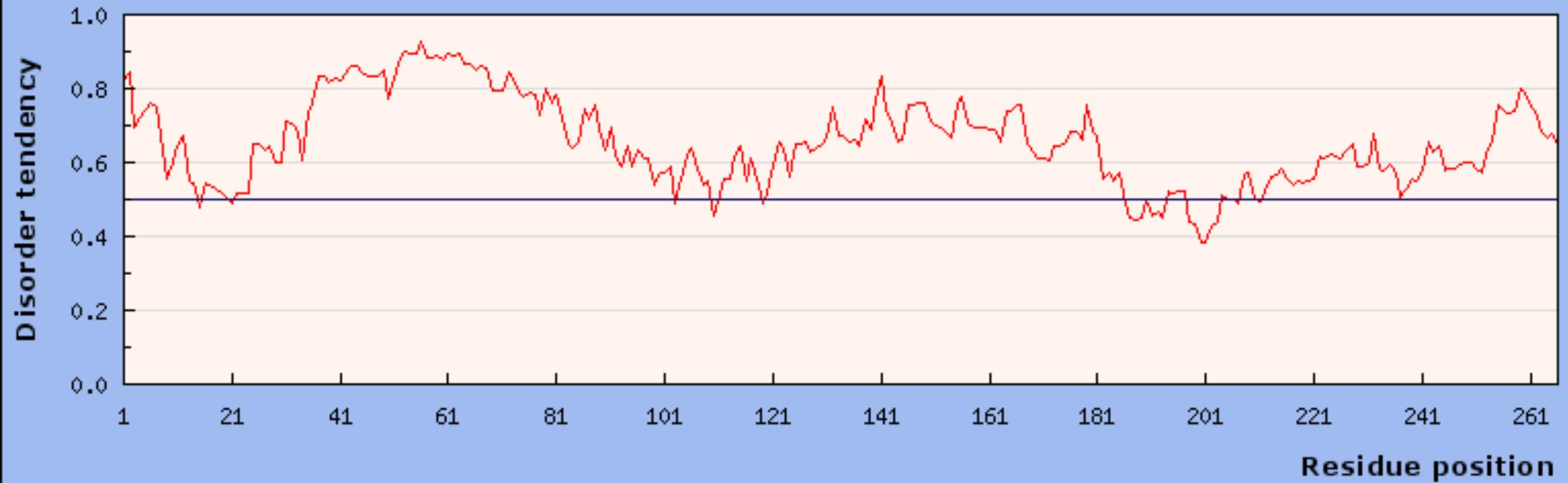
Figure S2. Related to Figure 7 Additional Differential Scanning Calorimetry Thermograms for Yeast Heterologously Expressing Different CAHS Proteins.

CAHS proteins

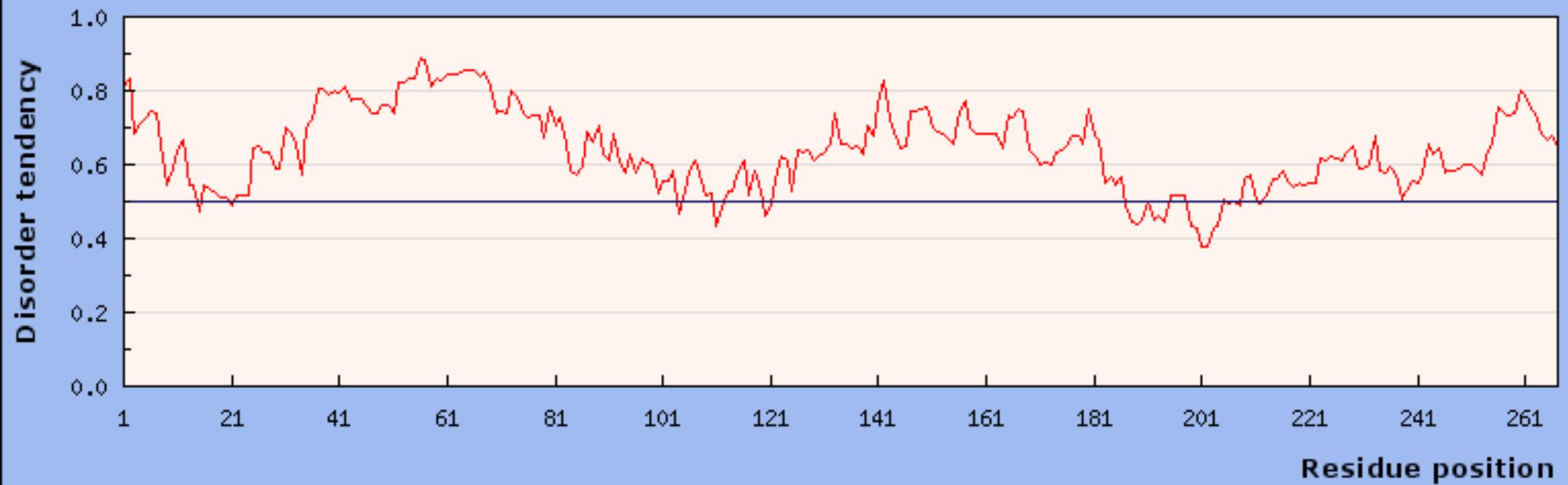
IUPRED^{1,2} Disordered Protein Predictions

1. The Pairwise Energy Content Estimated from Amino Acid Composition Discriminates between Folded and Intrinsically Unstructured Proteins
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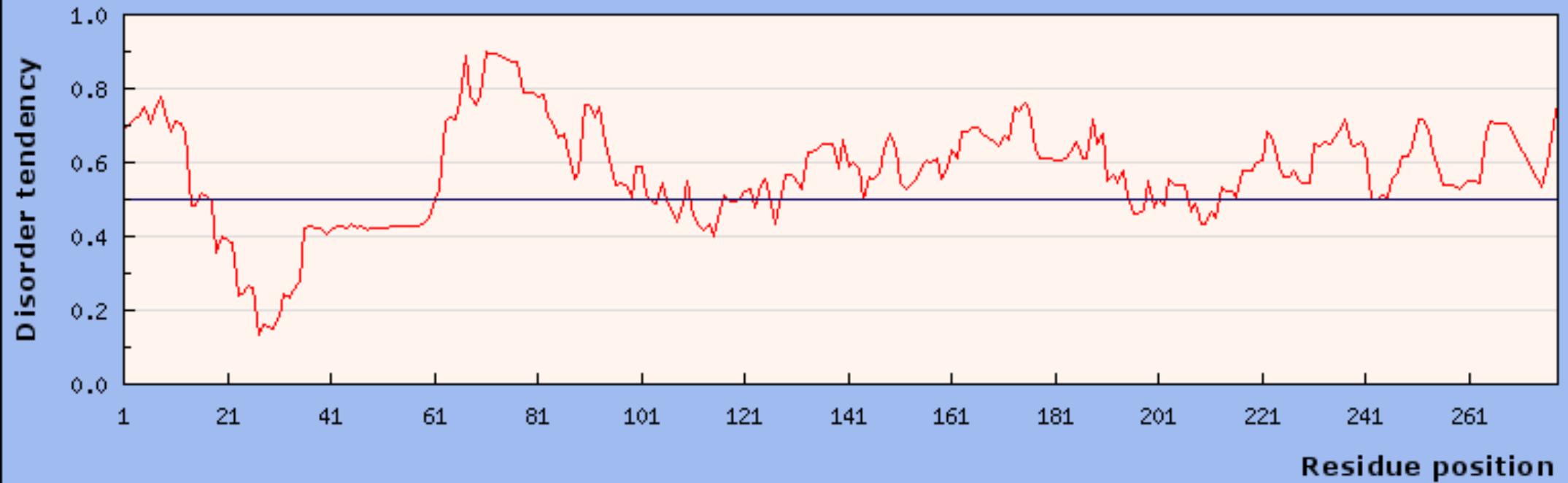
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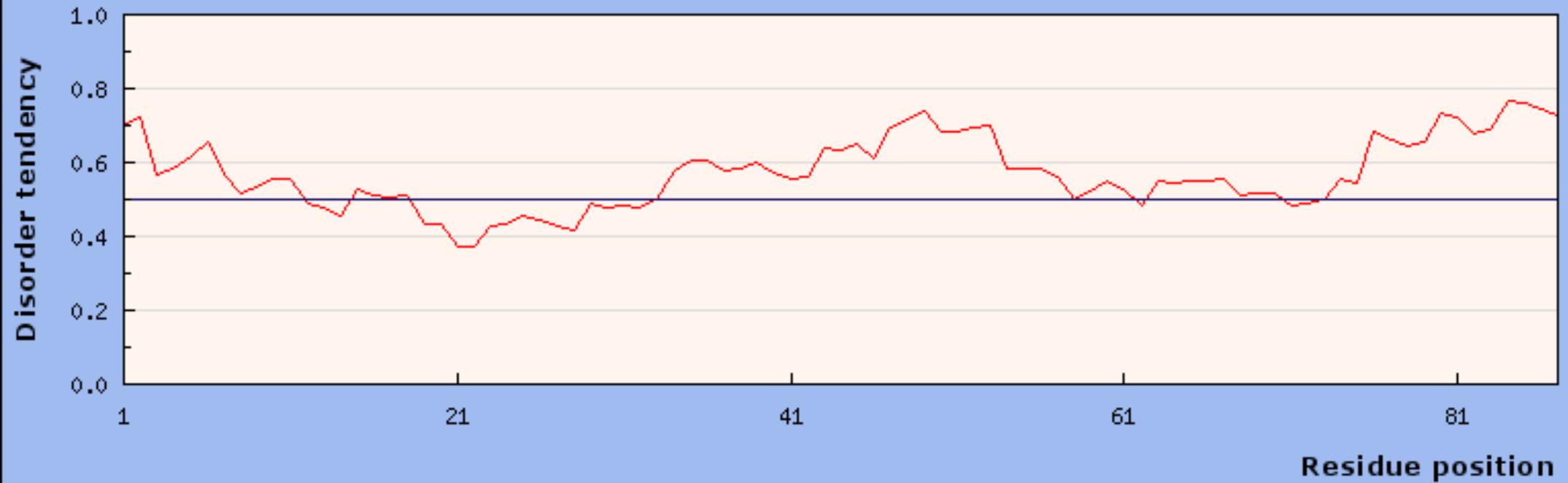
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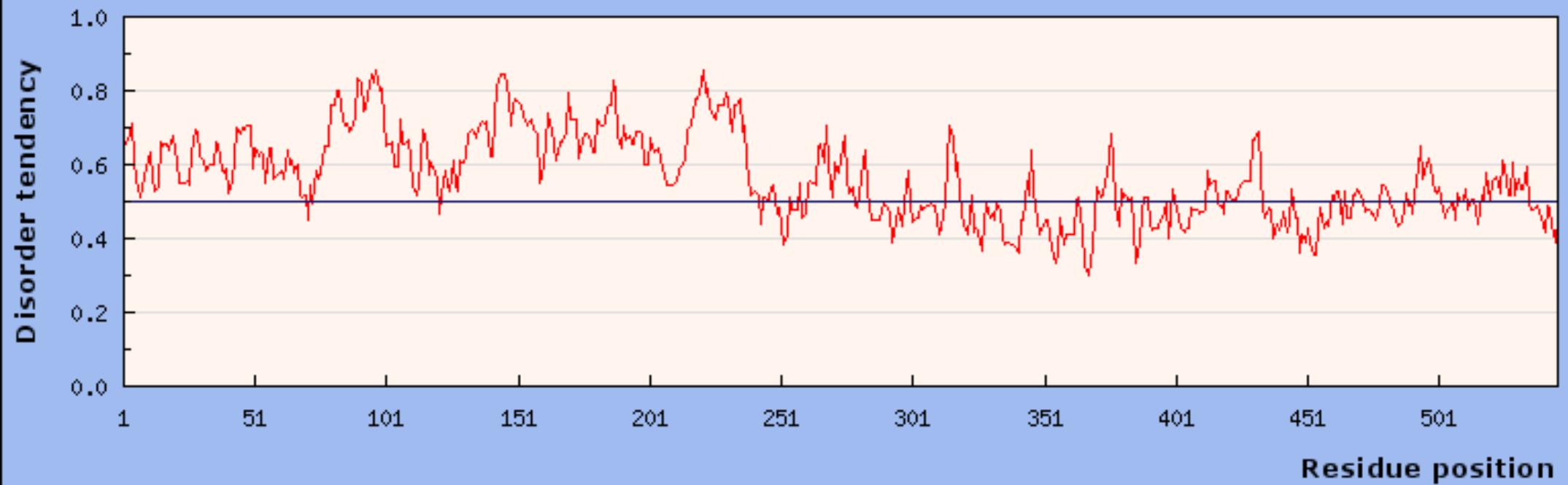
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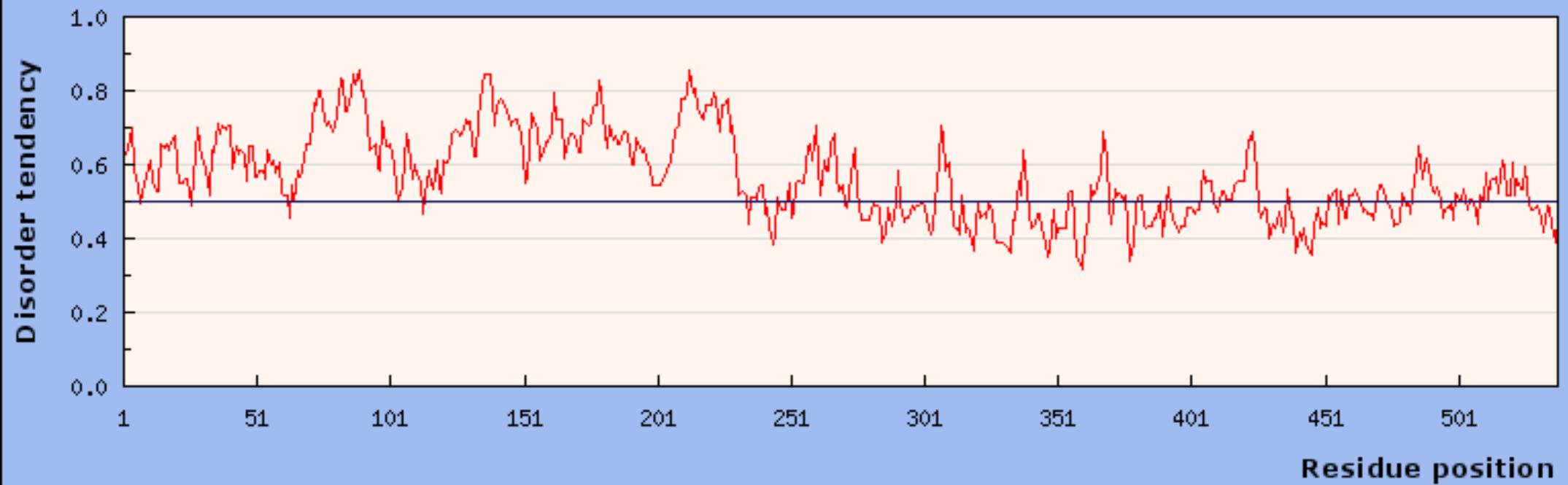
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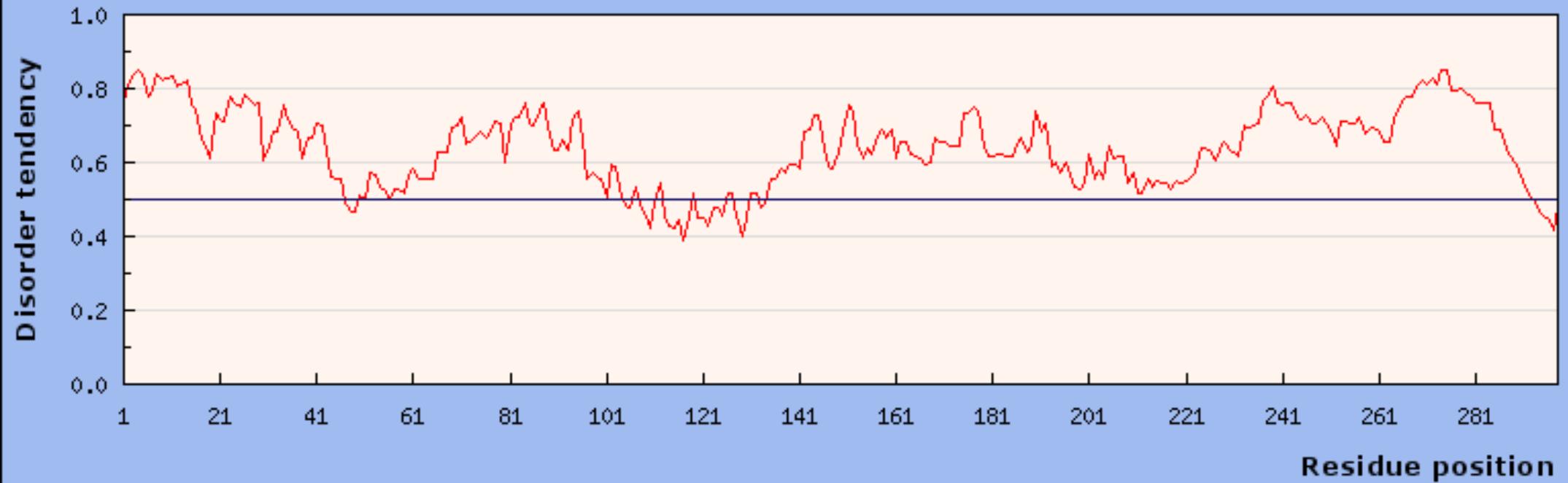
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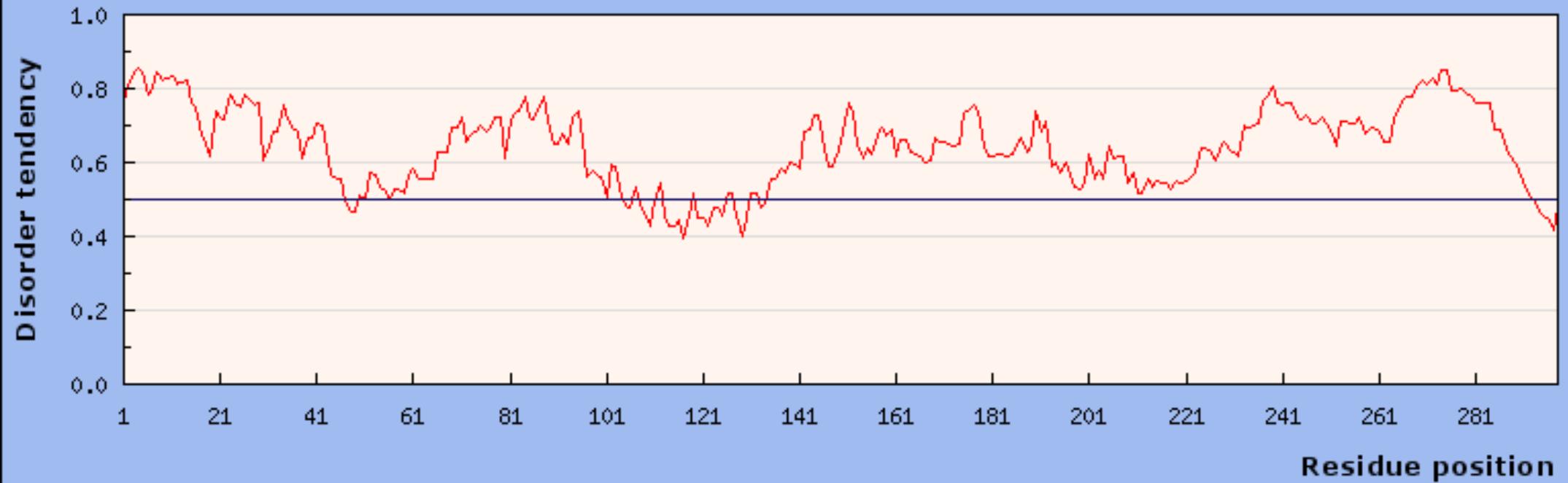
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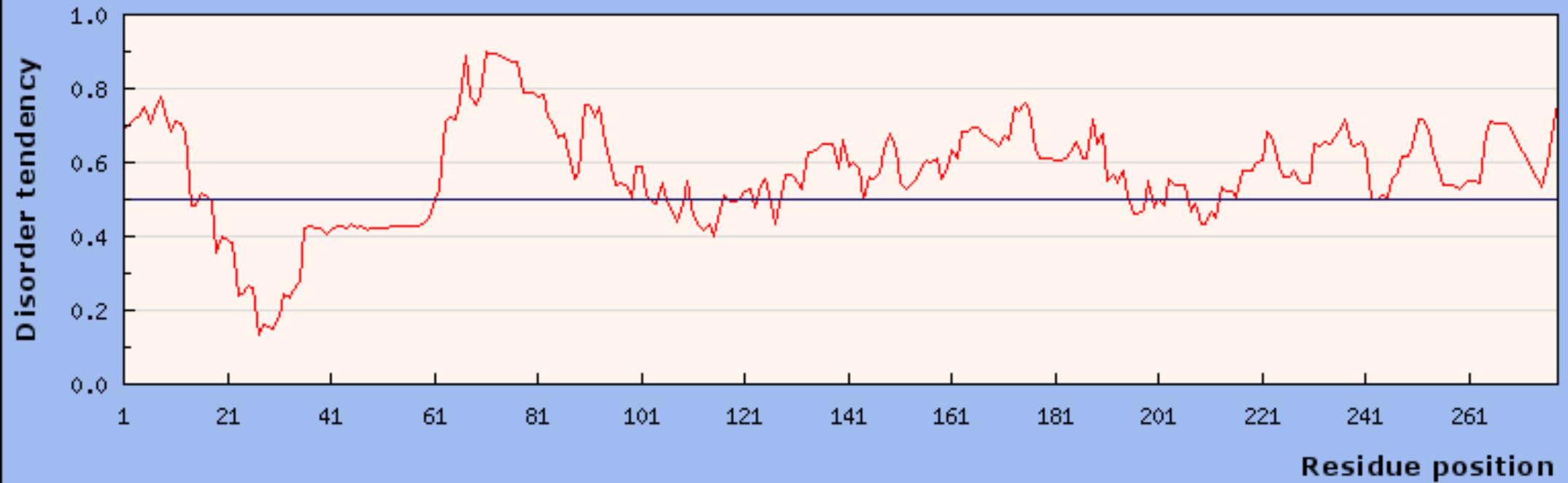
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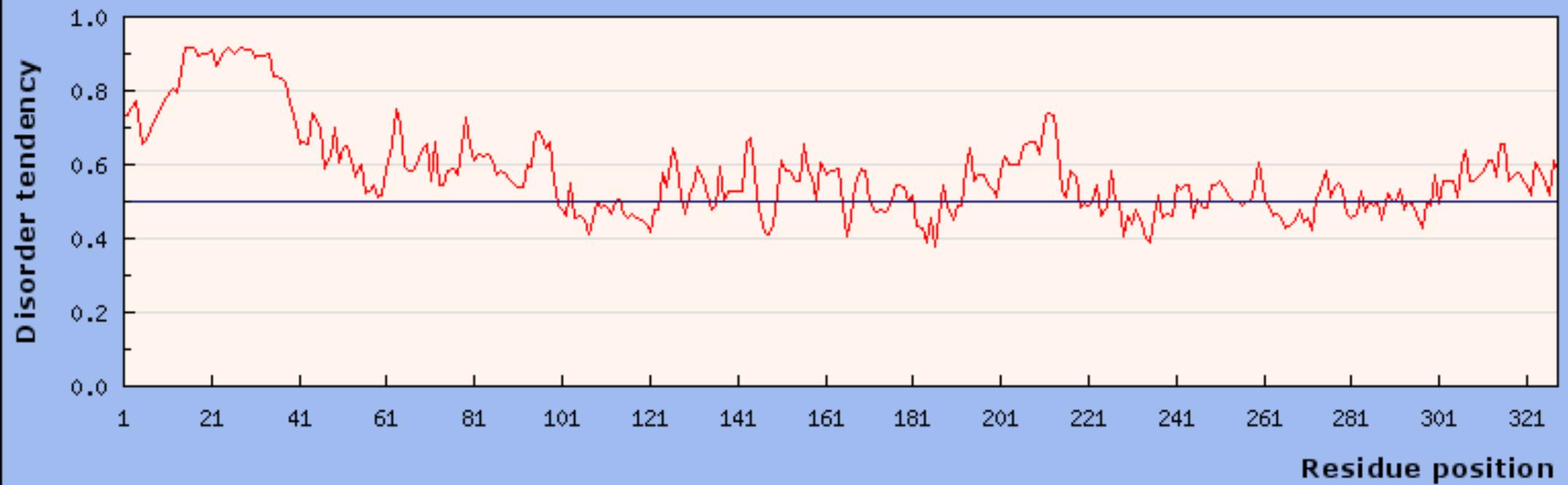
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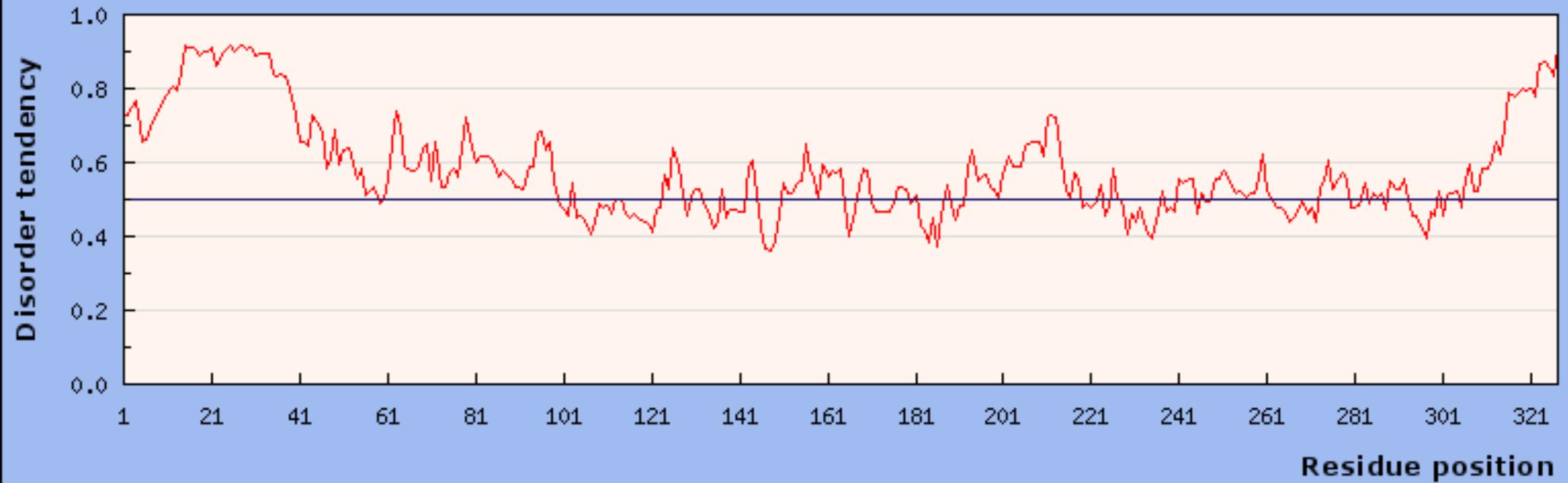
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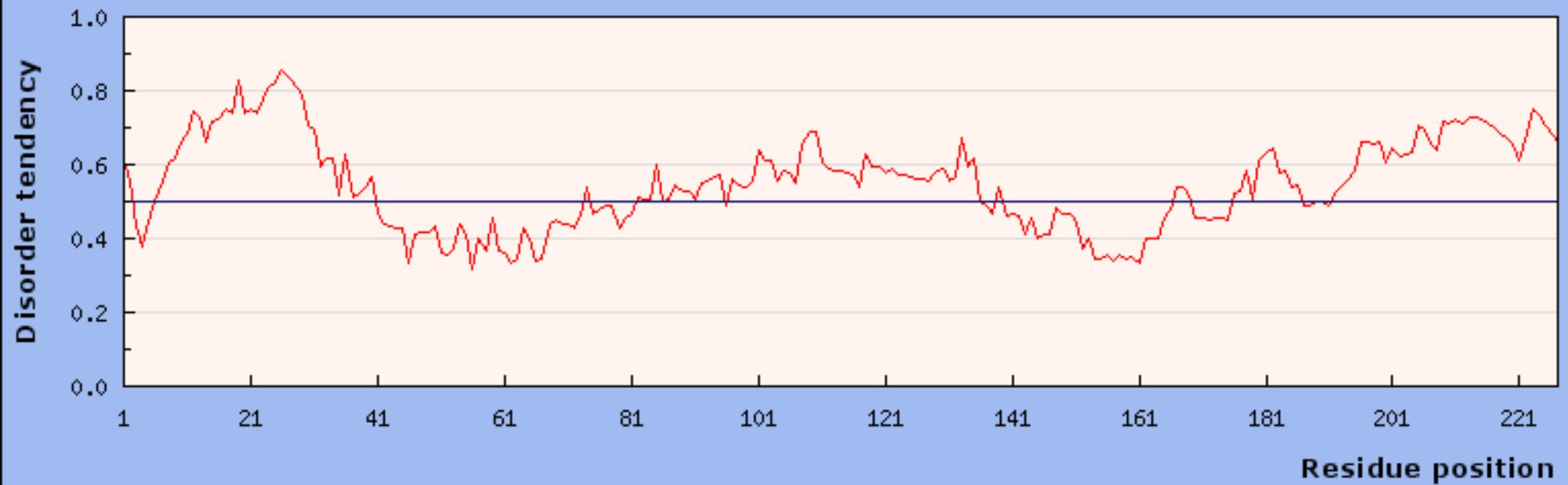
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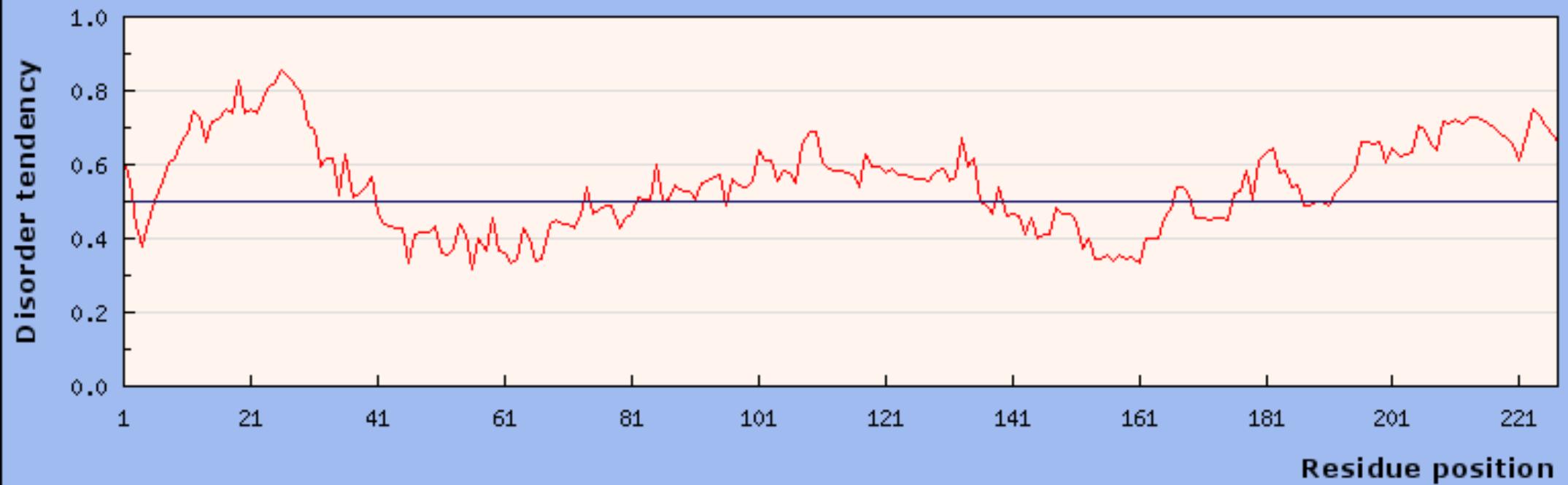
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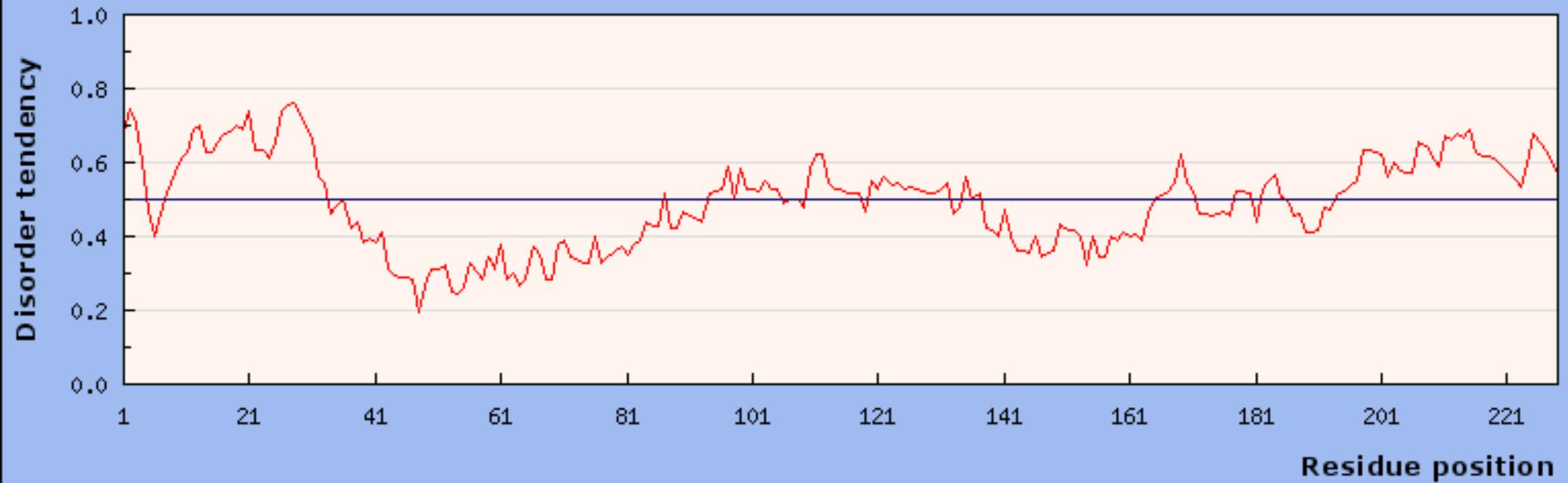
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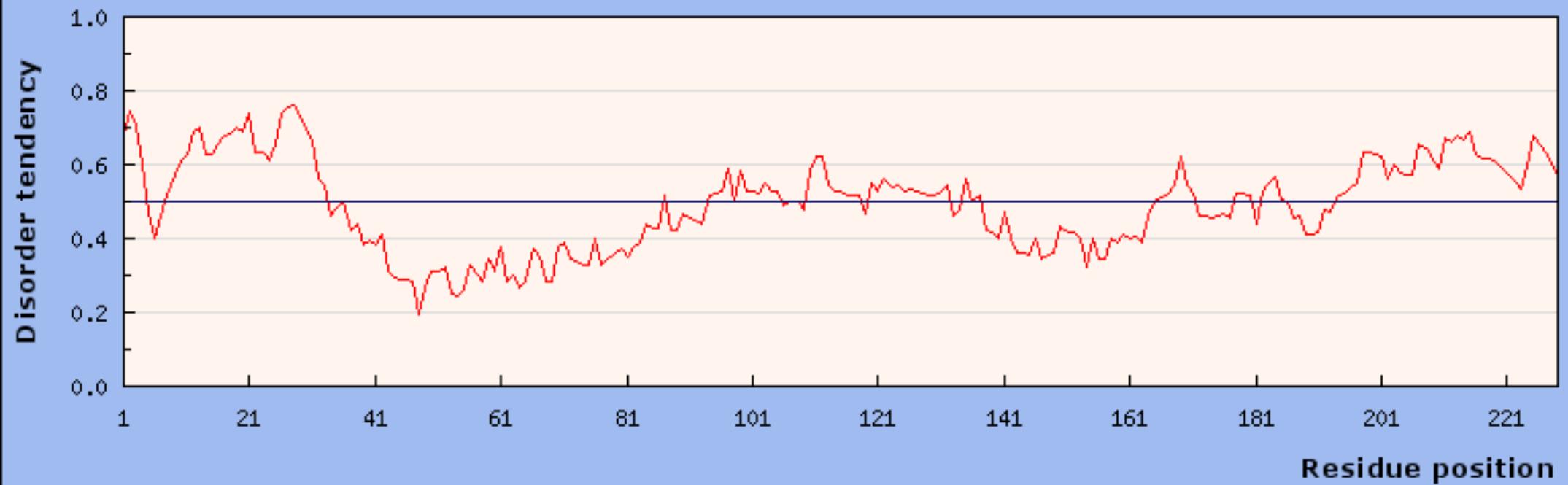
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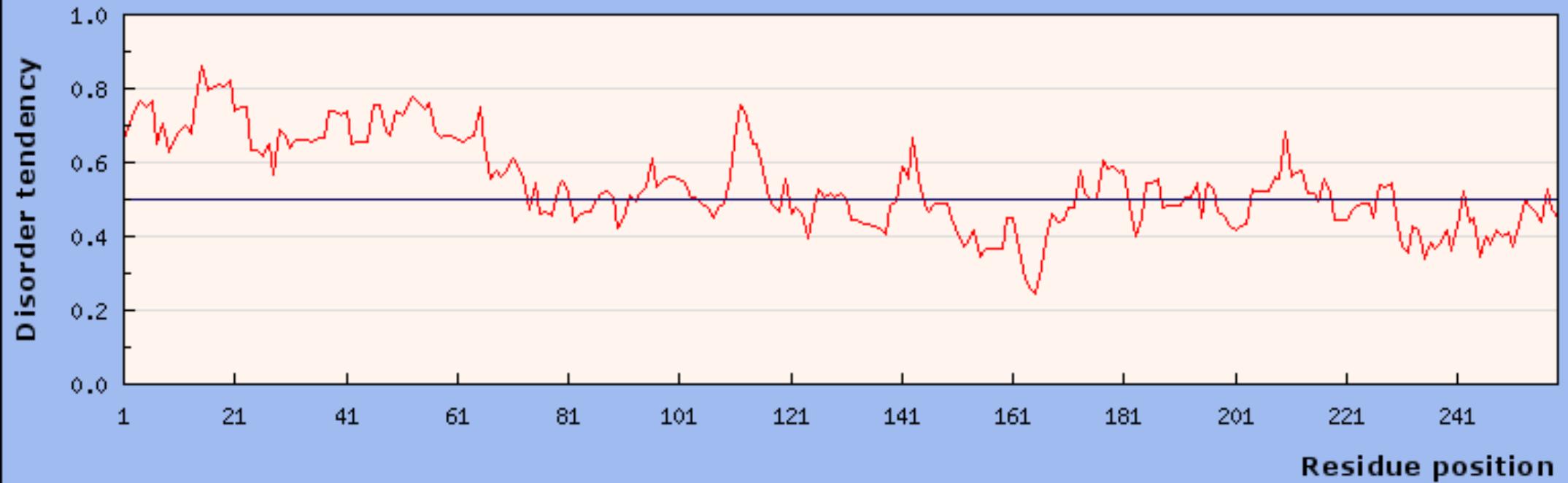
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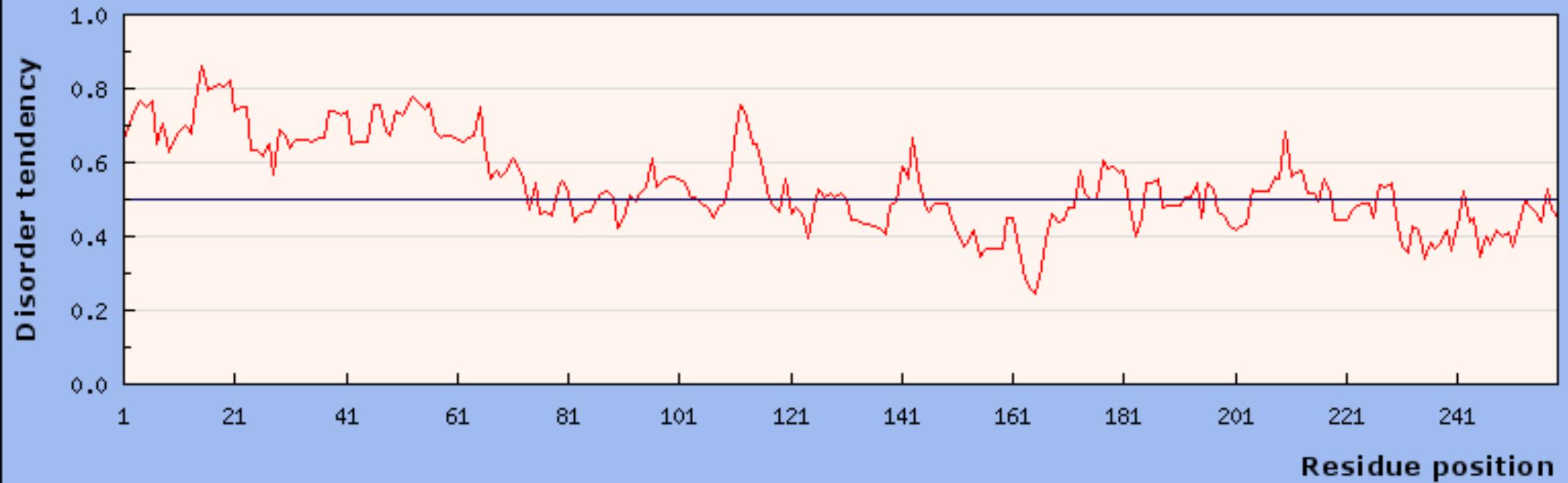
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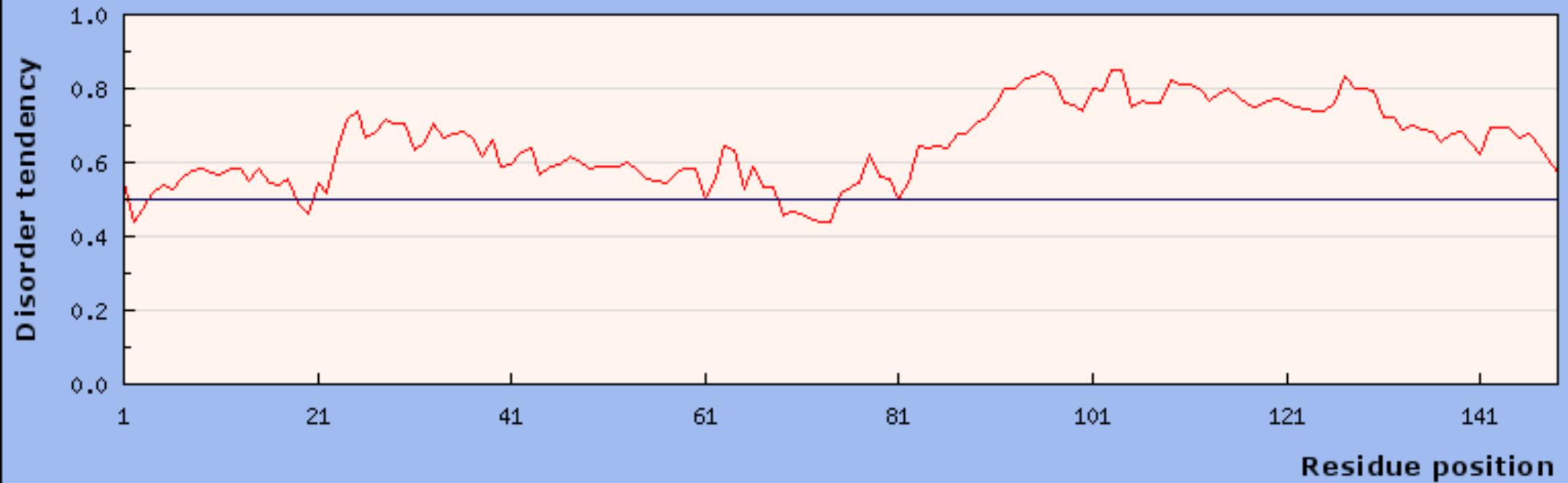
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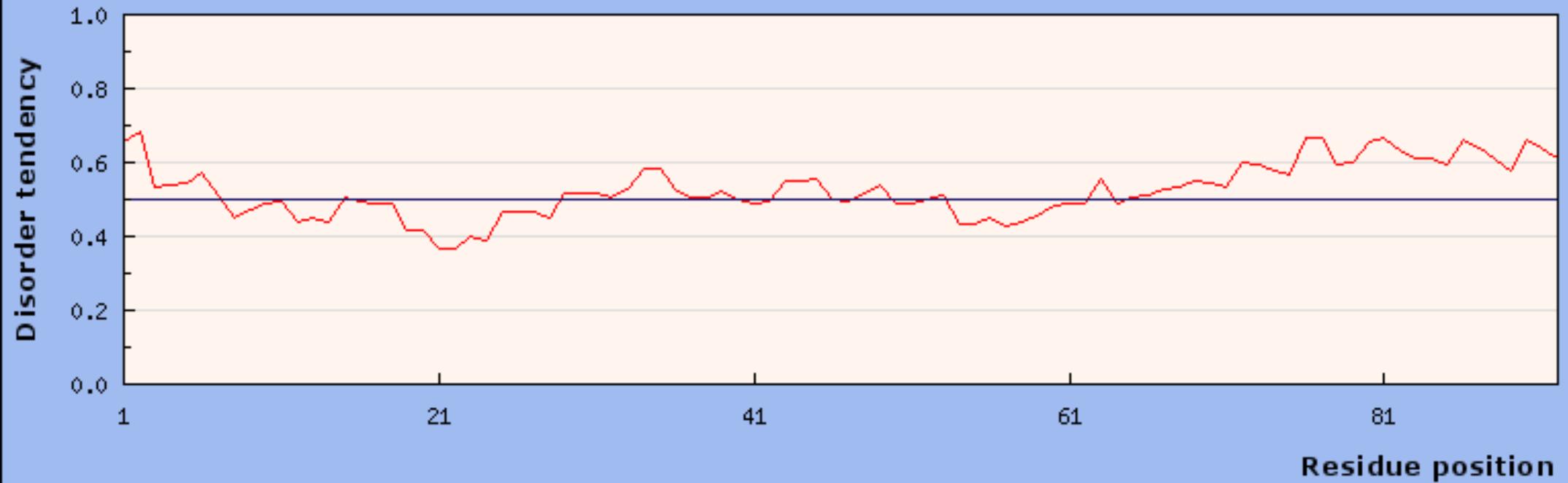
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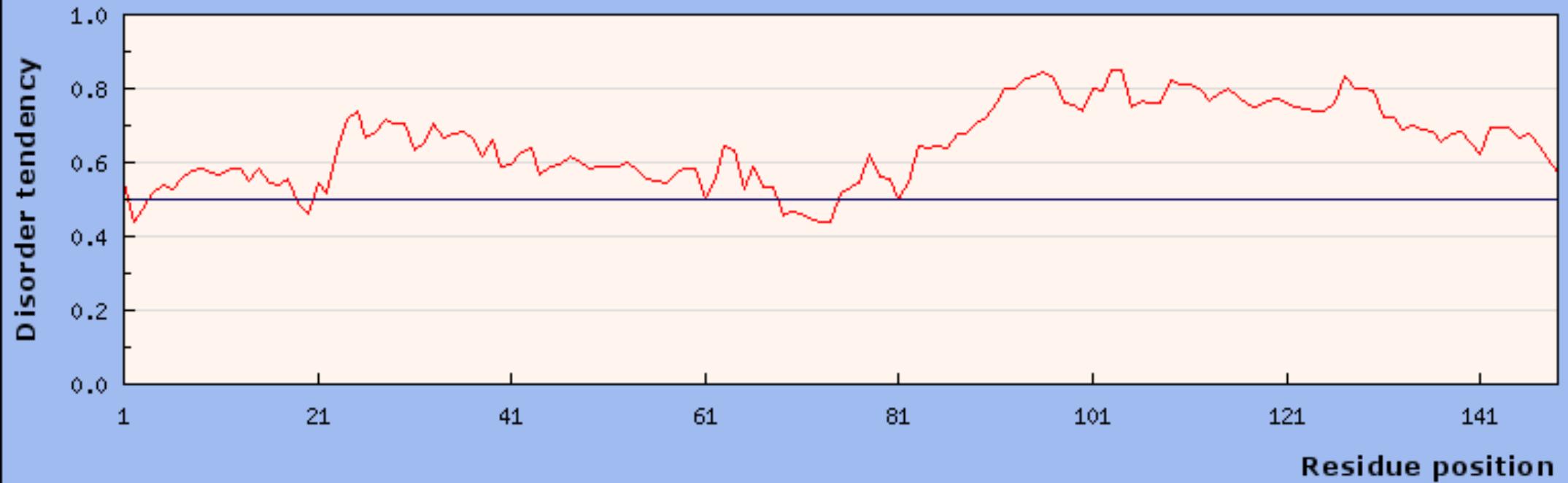
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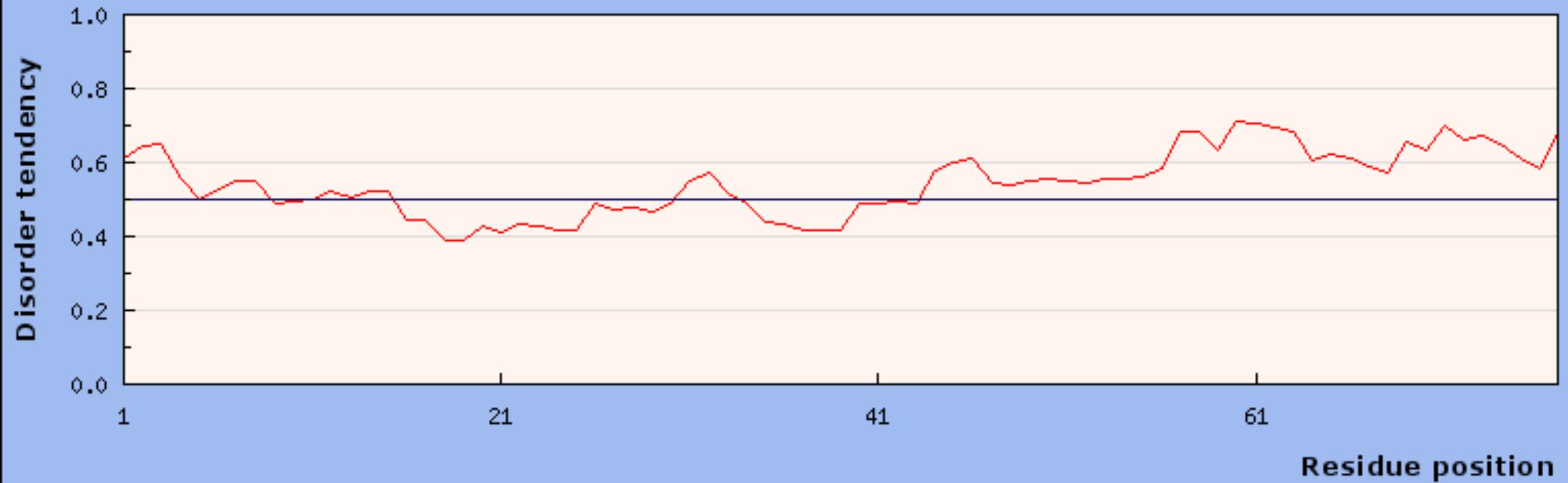
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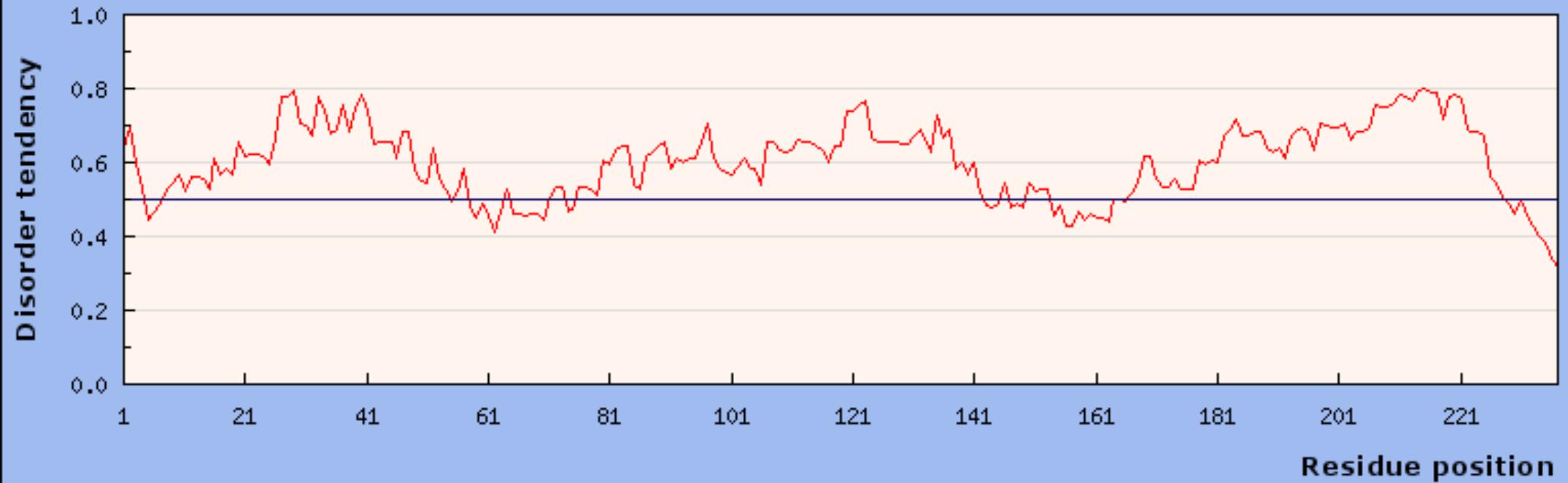
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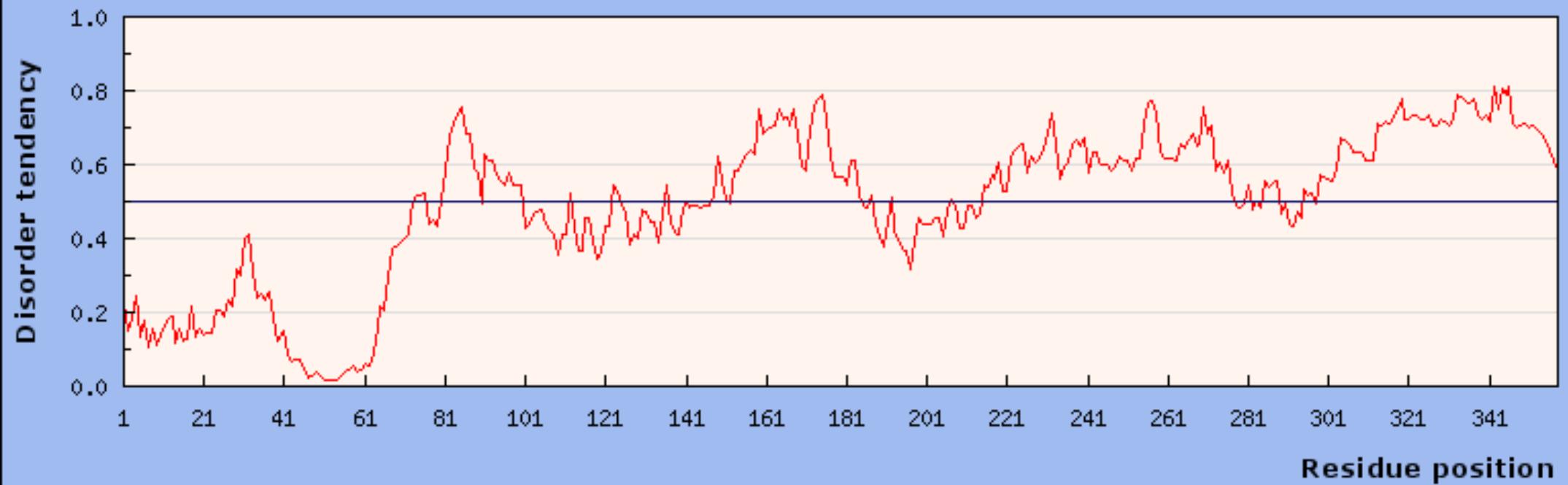
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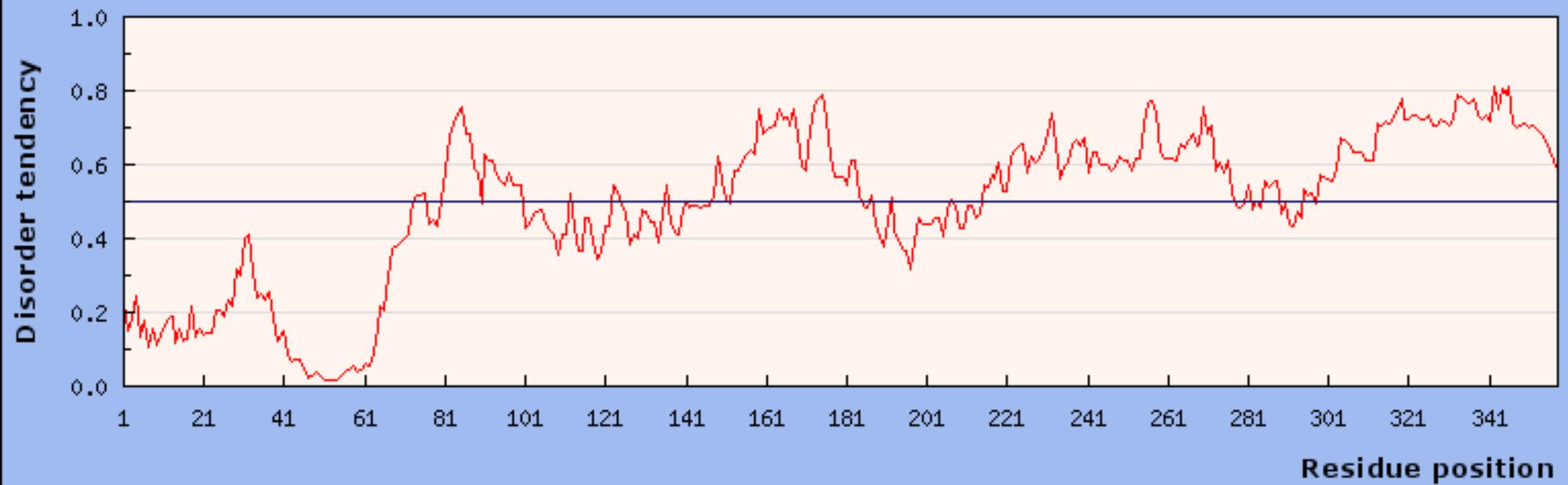
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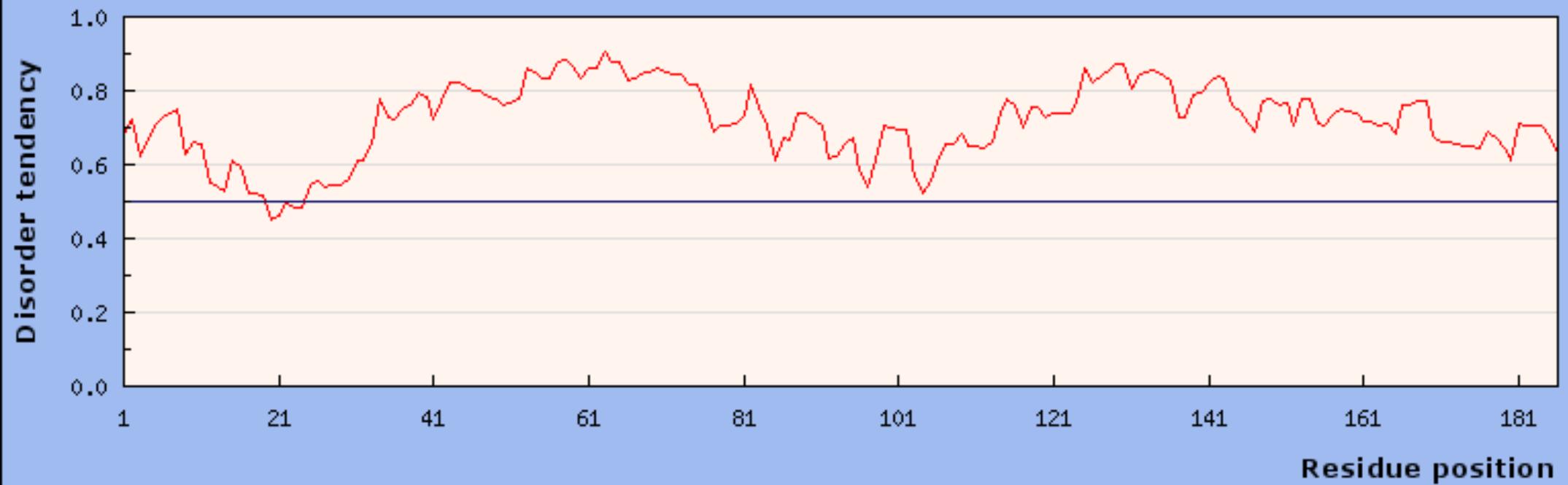
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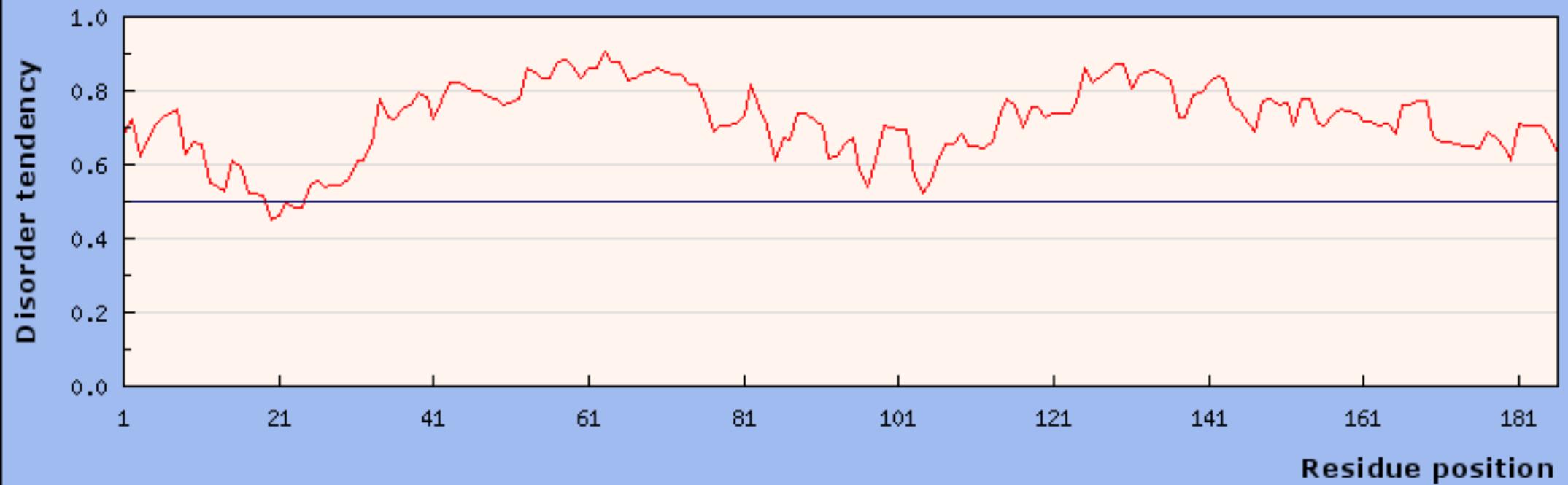
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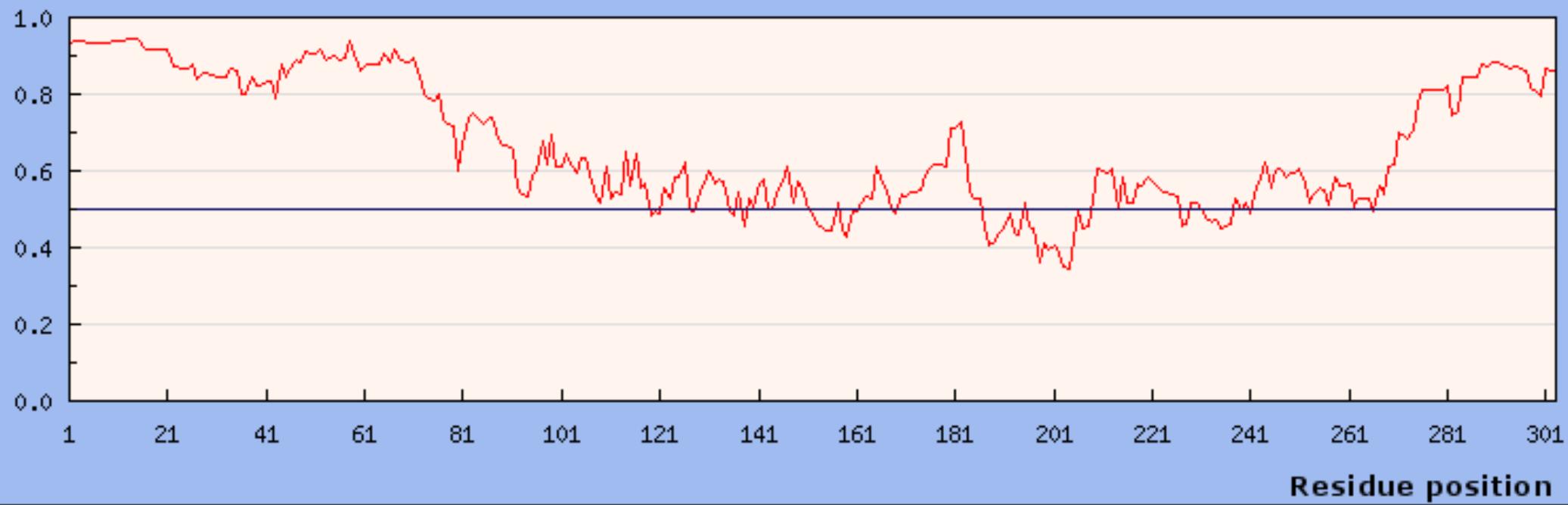
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Disorder tendency



>Rv_3

Disorder tendency



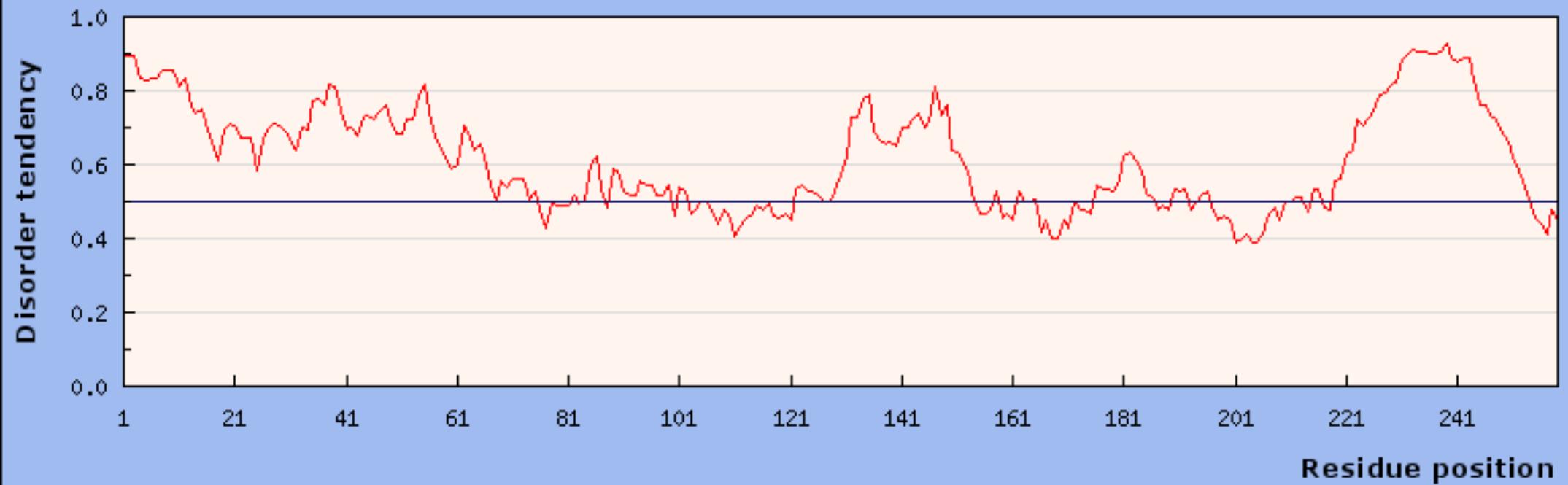
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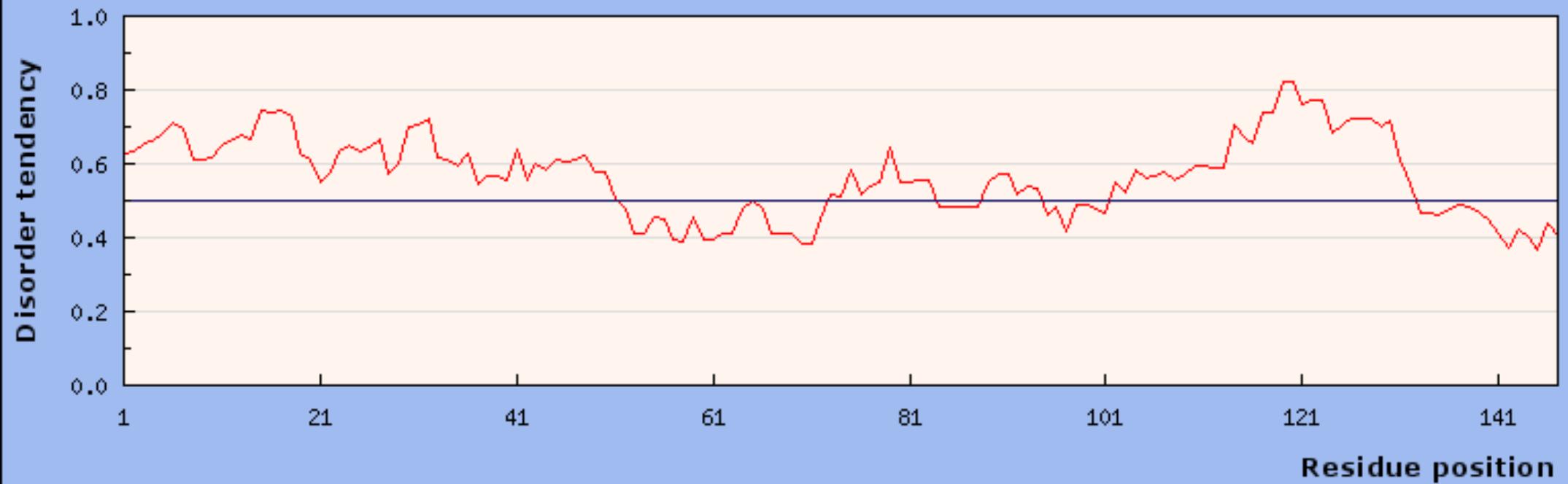
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MAHS proteins

IUPRED^{1,2} Disordered Protein Predictions

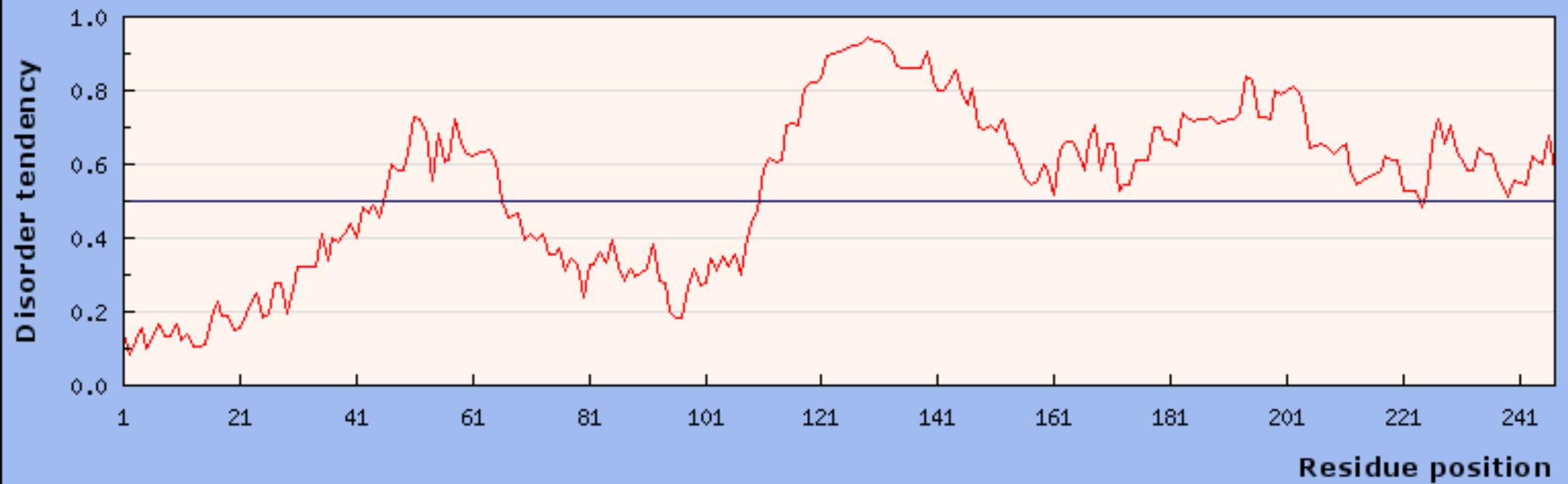
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>Rv_MAHS

Disorder tendency



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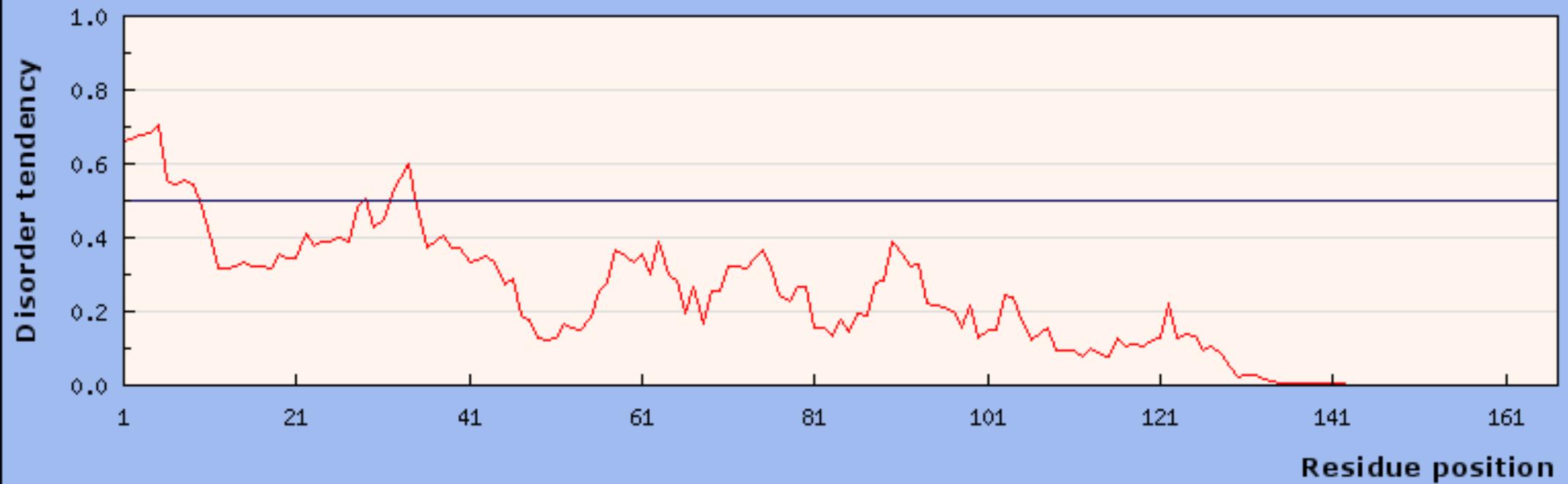


SAHS proteins

IUPRED^{1,2} Disordered Protein Predictions

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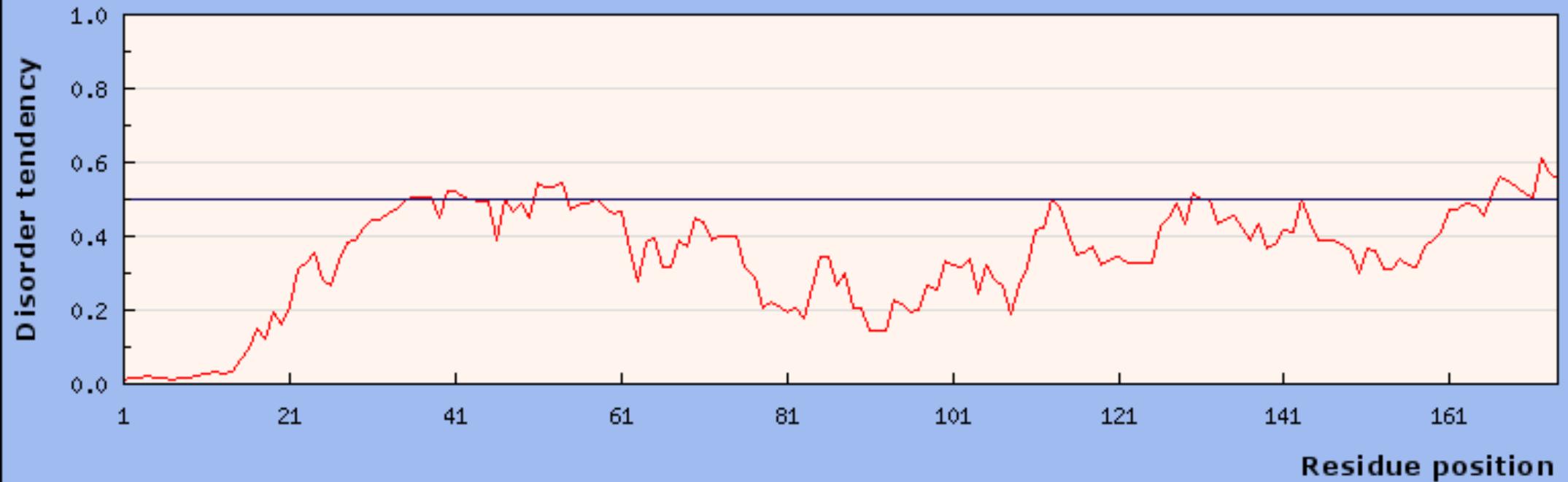
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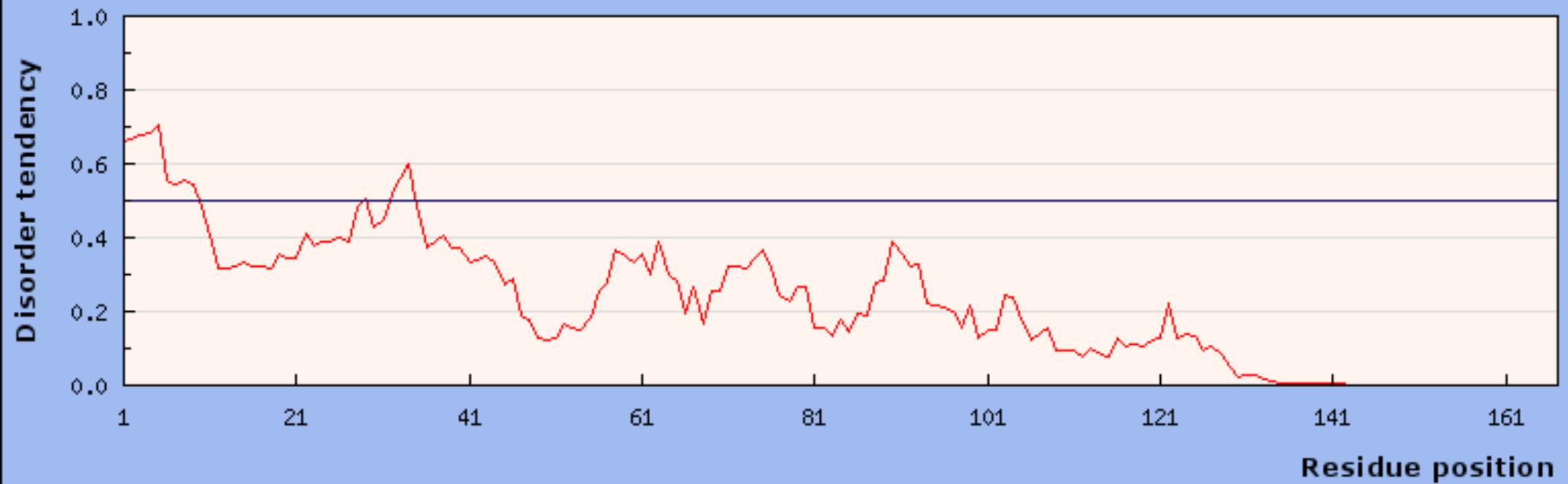
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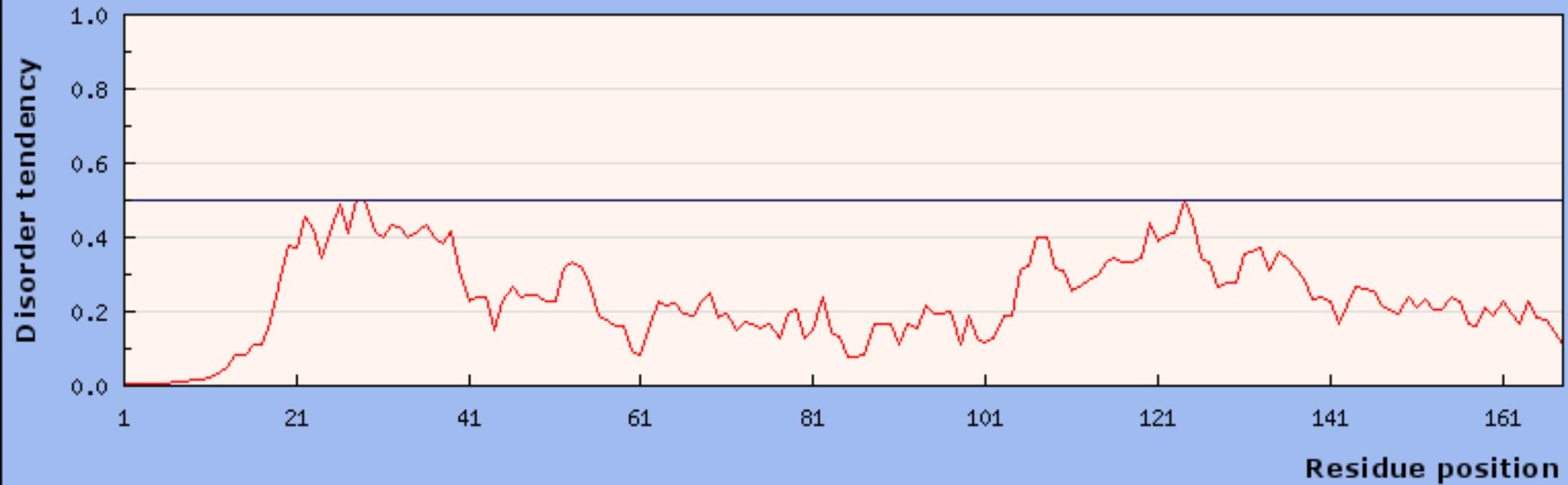
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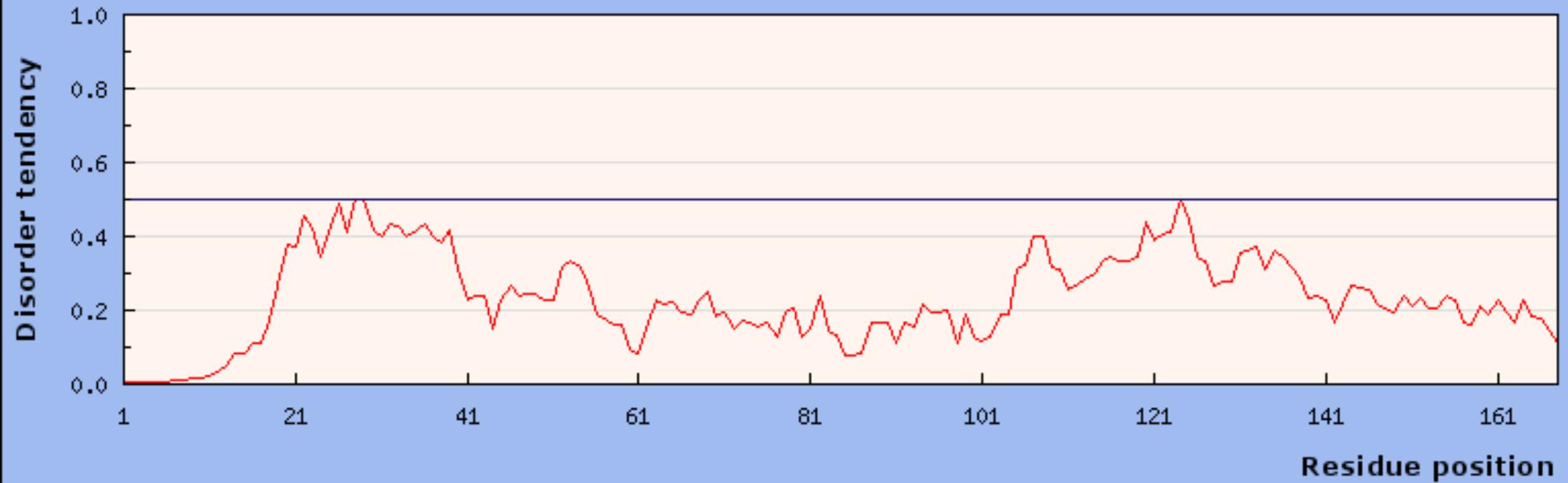
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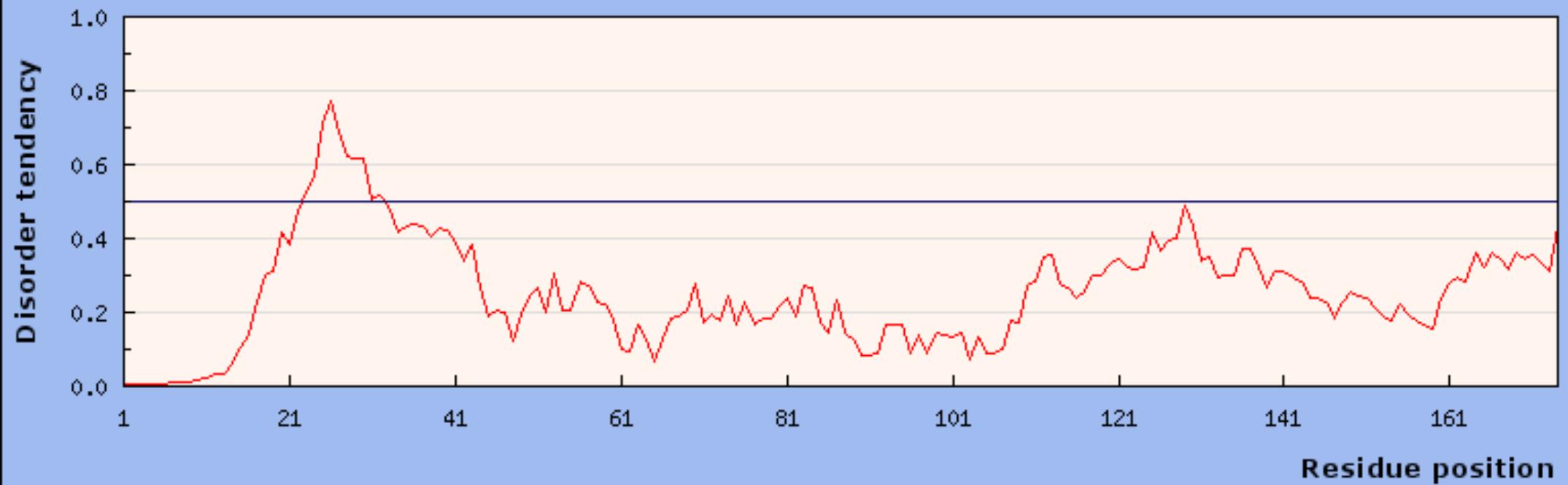
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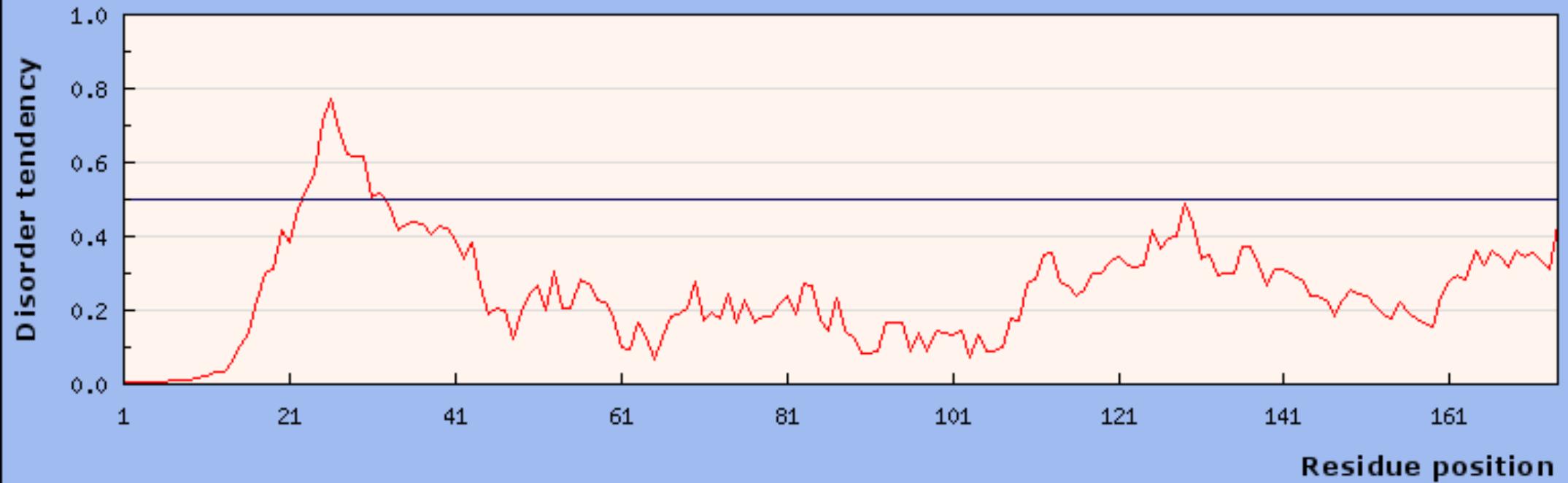
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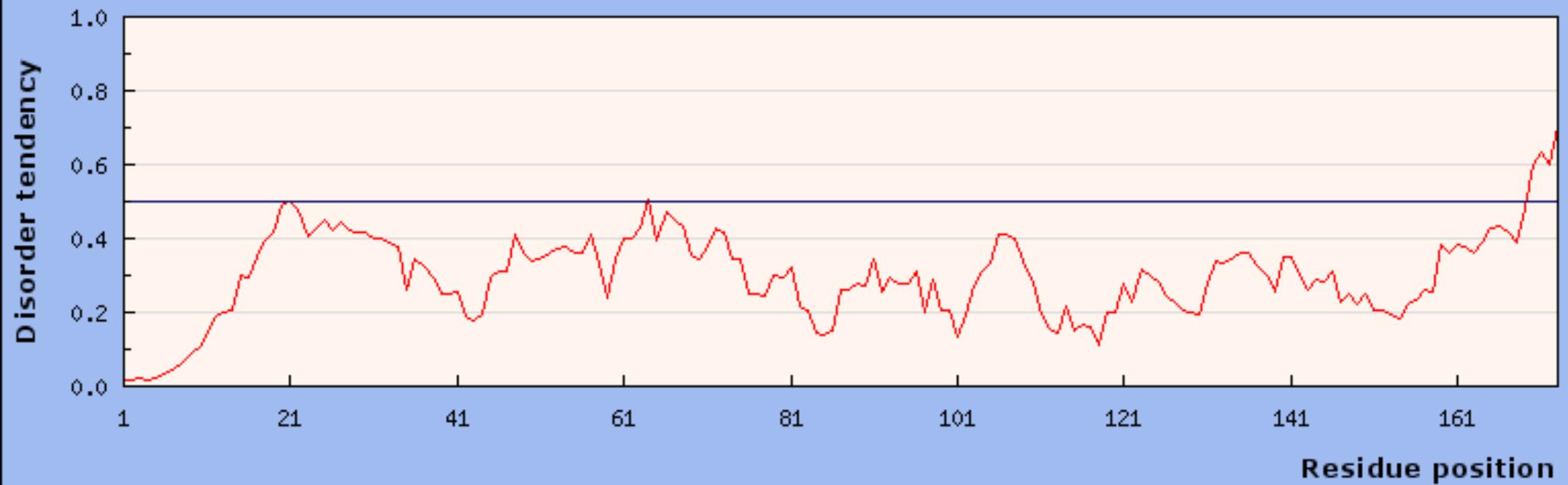
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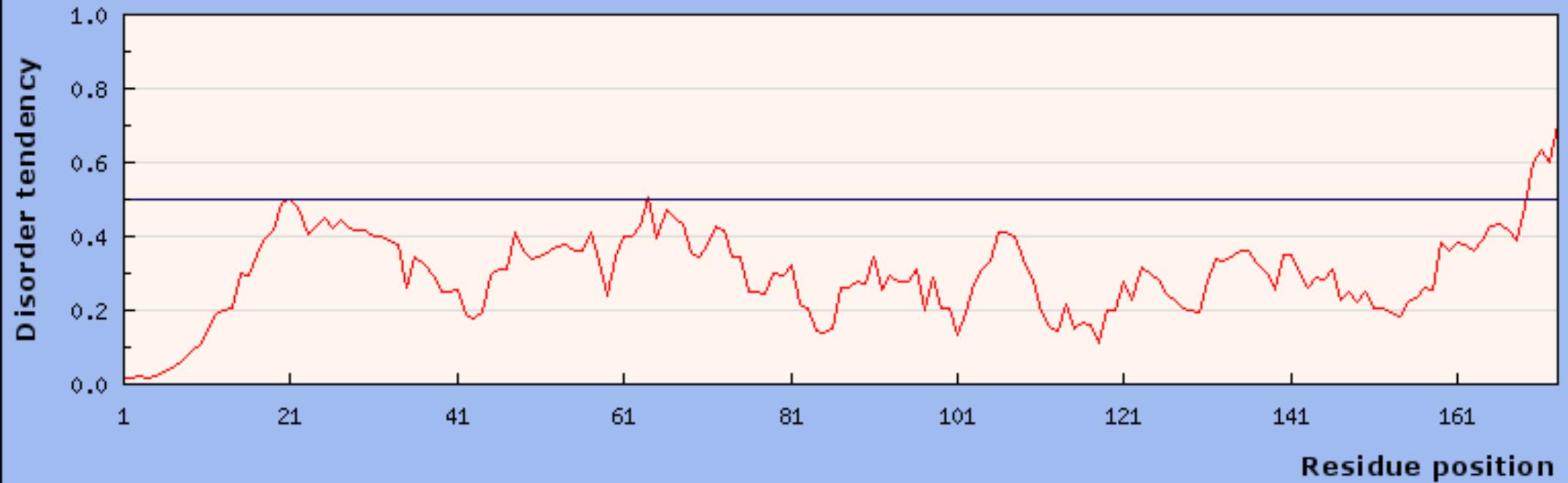
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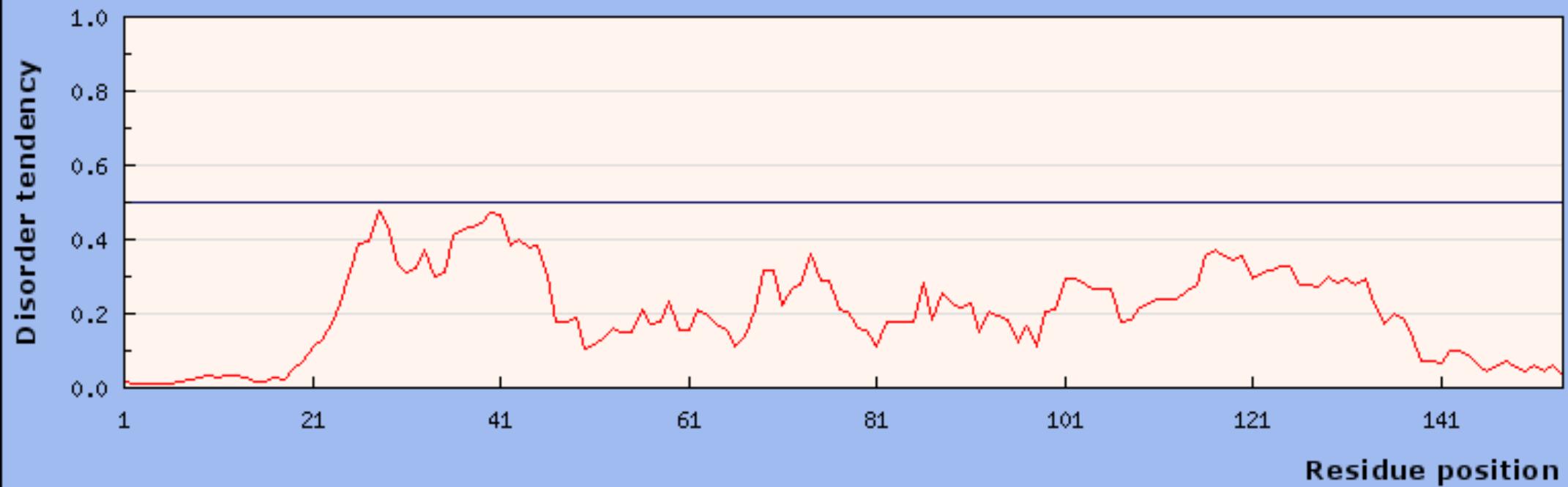
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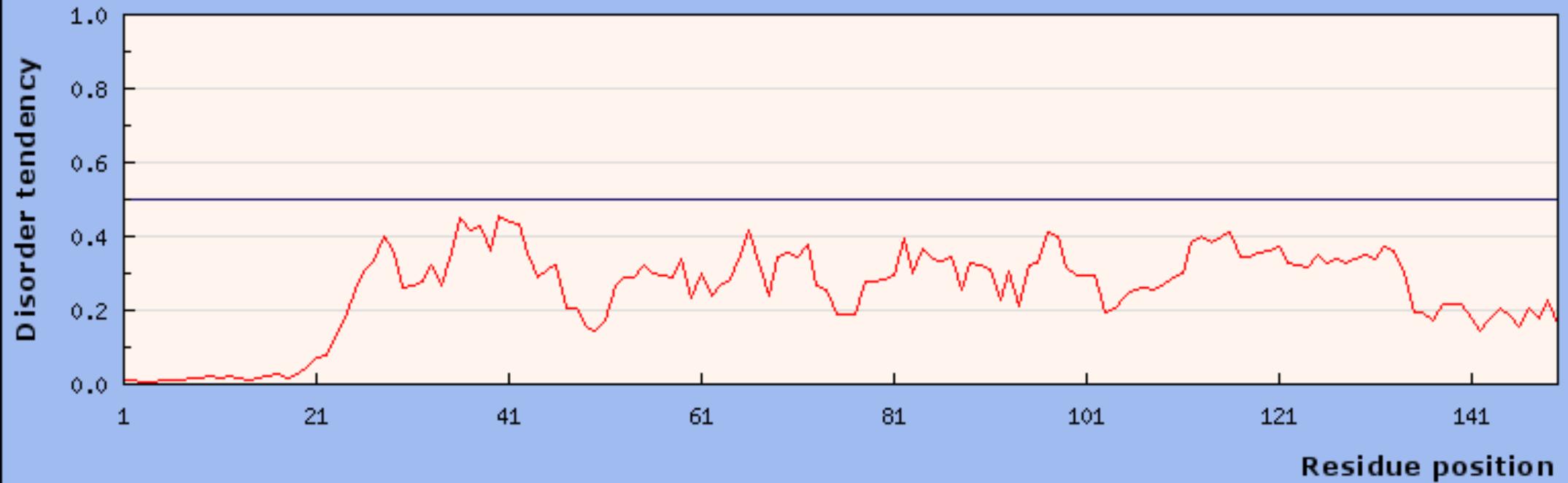
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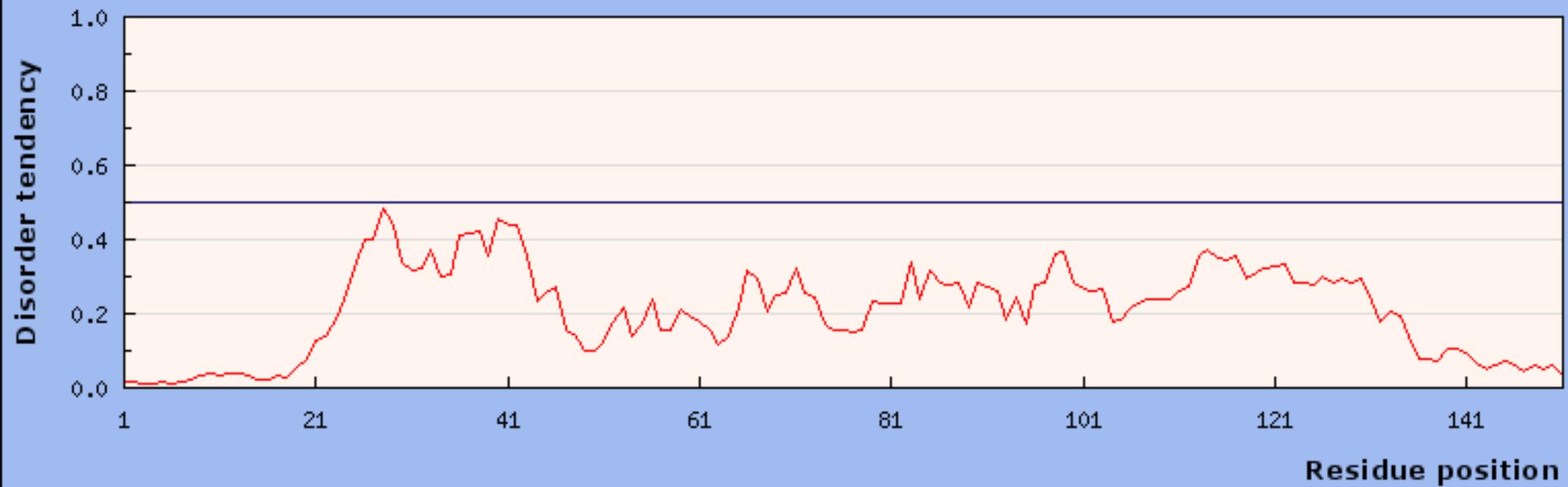
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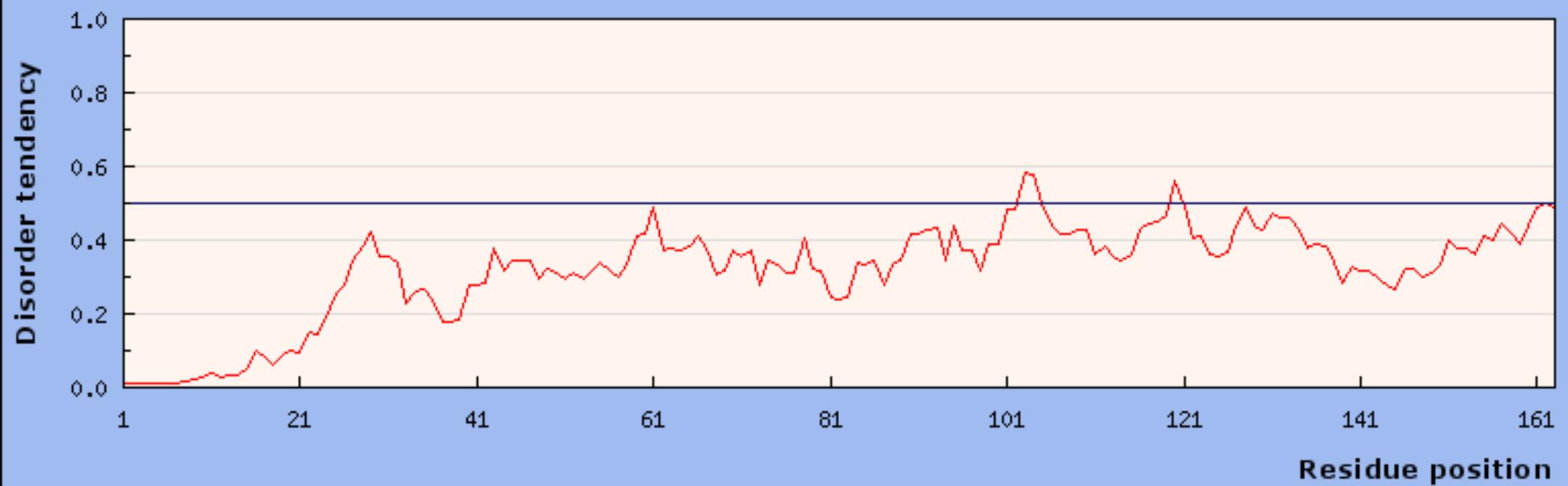
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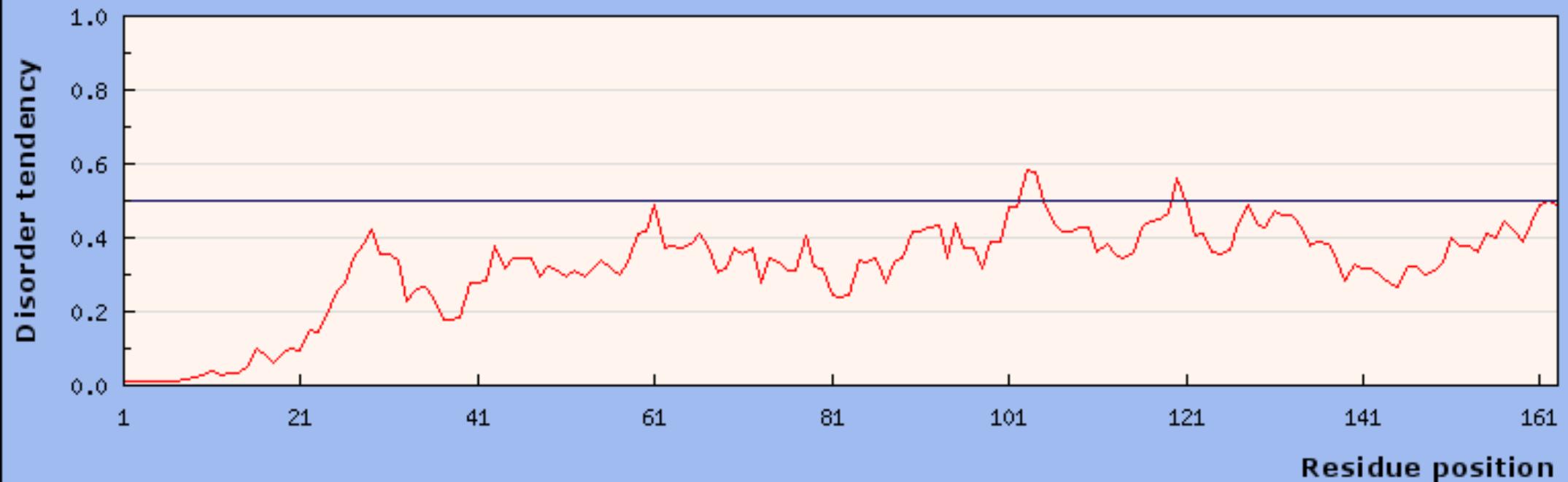
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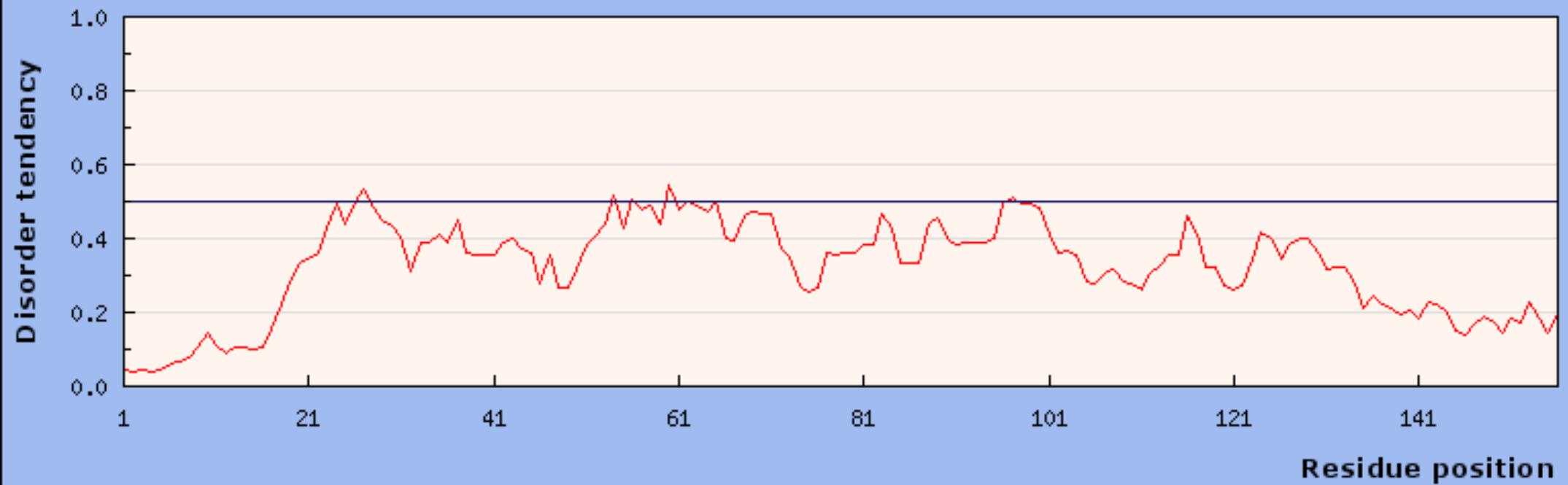
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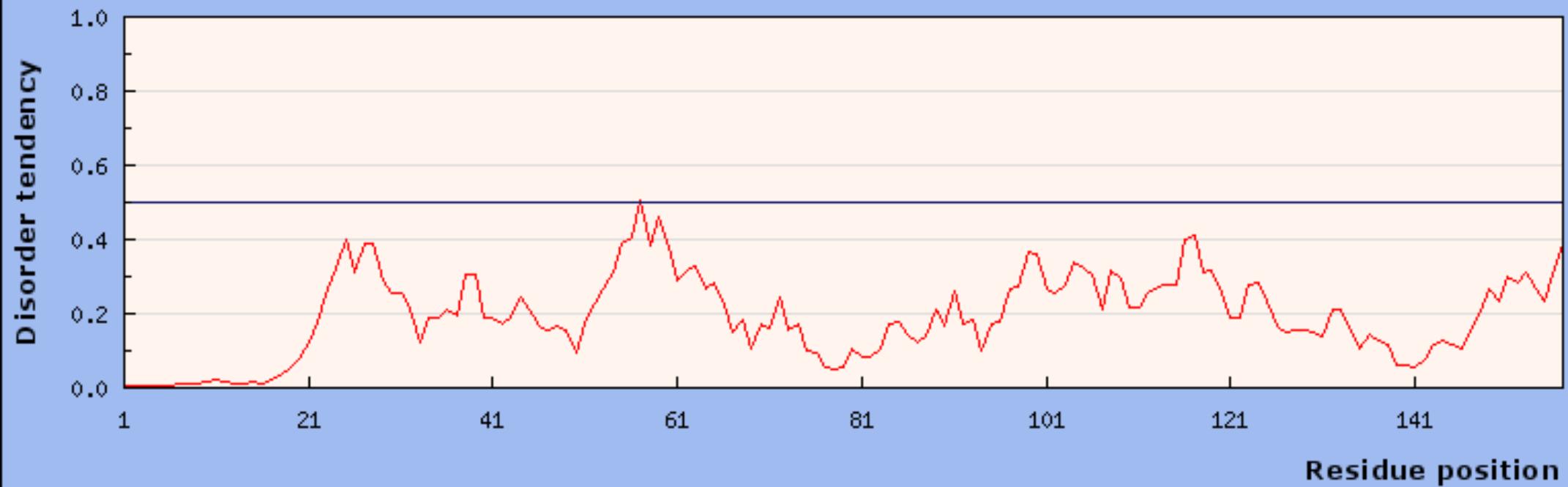
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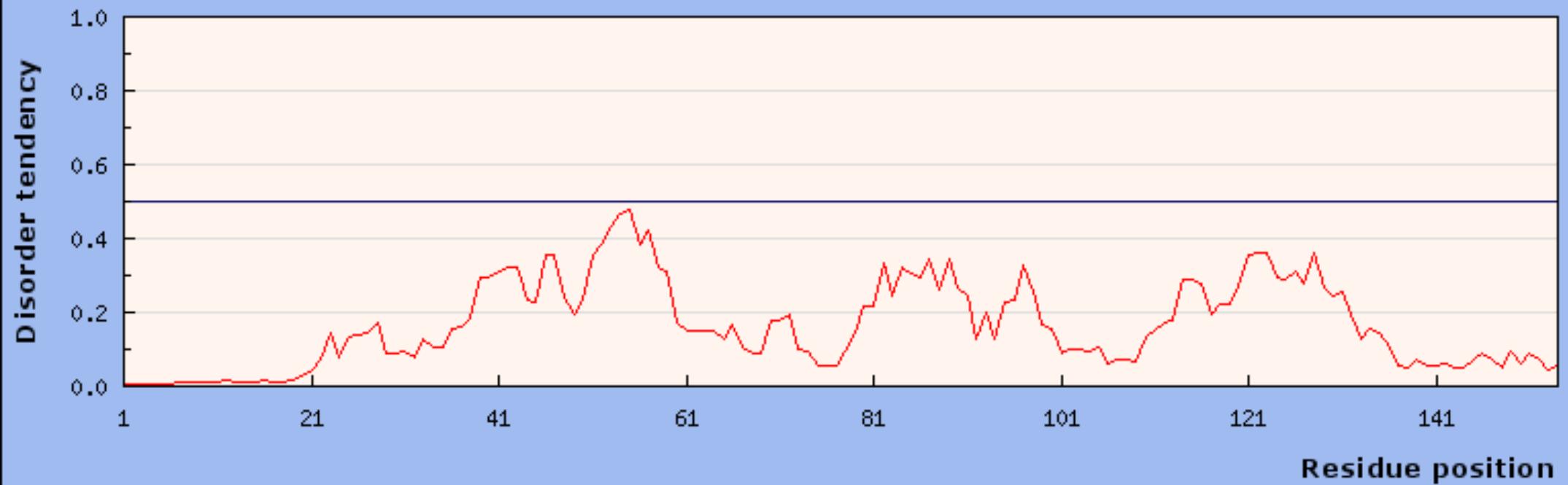
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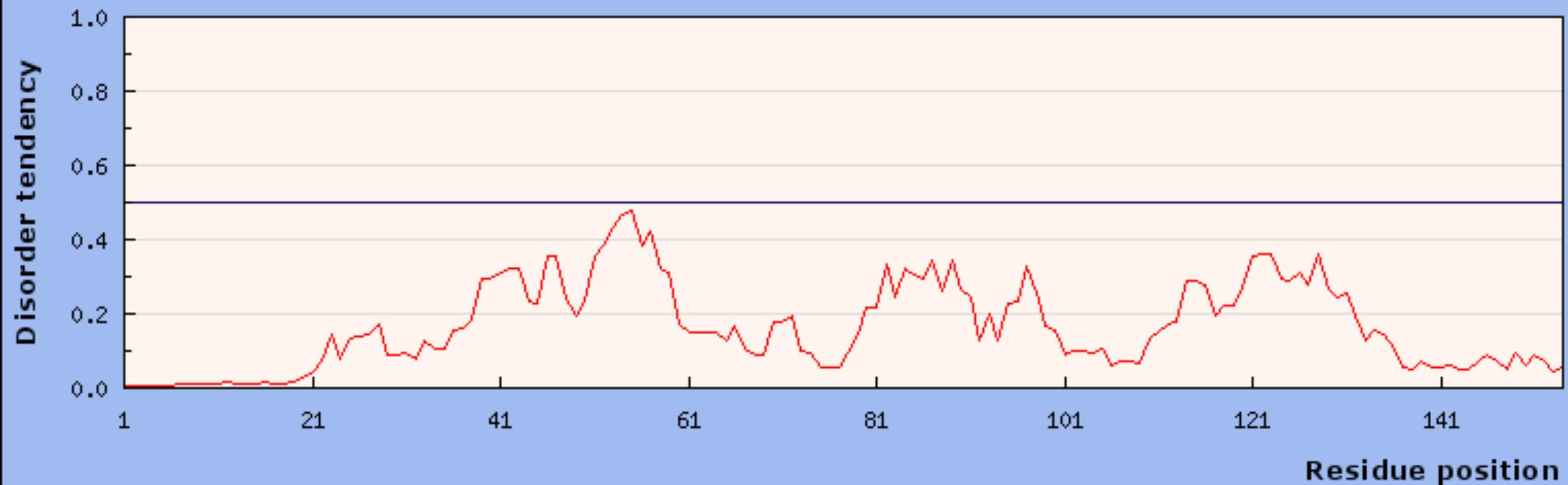
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