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Aihua Li* (lia@mail.montclair.edu). *Recent Development of Randic Connectivity Index and Applications in Life Sciences.*

In this presentation the author will report recent results from the study of Randic connectivity indices (RCI) of certain graphs derived from biology and chemistry problems, including line graphs built from DNA sequences. Among a special type of graphs, the ones with maximum or minimum RCI value are identified. An application in DNA data analysis is shown which demonstrates how the graph index is used to analyze DNA data of Chagas disease and help better understand the revolutionary relationships of the insect vectors. (Received September 17, 2013)