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Closure properties of Watson-Crick grammars (Conference Paper)

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Abstract

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In this paper, we define Watson-Crick context-free grammars, as an extension of Watson-Crick regular grammars and Watson-Crick linear grammars with context-free grammar rules. We show the relation of Watson-Crick (regular and linear) grammars to the sticker systems, and study some of the important closure properties of the Watson-Crick grammars. We establish that the Watson-Crick regular grammars are closed under almost all of the main closure operations, while the differences between other Watson-Crick grammars with their corresponding Chomsky grammars depend on the computational power of the Watson-Crick grammars which still need to be studied. © 2015 AIP Publishing LLC.

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