

## Utilization of Abductive Reasoning for Finding Missing Information in Gene Networks

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Signaling pathways are seen as high criticalities in our understanding of the mechanisms of biological functions. In this paper we are interested in the automatic synthesis of signaling pathways based on facts found in knowledge bases. An essential component of this approach is the use of logical reasoning to acquire relevant facts concerned the biological knowledge of intracellular communication. By choosing the appropriate representation of biological knowledge, the “reasoning” part is capable of assigning order in the acquisition of facts and of extracting the interactions necessary for the synthesis of the metabolic or signaling pathways.