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Using computer vision to analyze R-loop imaging data

R-loops are three-stranded nucleic acid structures containing a DNA:RNA hybrid and an associated single DNA strand. They are usually created during the process of transcription. Although their presence can be beneficial in cellular processes, an excessive formation of these objects is commonly associated with instabilities. As such, it is important to identify and classify different R-loop architectures. This task has been previously accomplished through manual classification. In this poster, we use computer vision to develop a computational pipeline to analyse AFM (atomic force microscopy) imaging data of R-loops and show some preliminary results.