

Public Abstract

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Title:CHEMICAL AND STRUTURAL PROPERTIES OF DNA-ABASIC SITE CROSS-LINKS

Here, we report on the formation of DNA interstrand cross-links. These cross-links form from abasic sites, an endogenous type of DNA damage. We have utilized gel electrophoresis, NMR, mass spectrometry and liquid chromatography to identify the location, DNA sequence specificity, stability and some structural information for these interstrand cross-links. Additionally, we have synthesized a small molecule standard which is identical to the enzymatically digested cross-link from duplex DNA. This synthetic standard can be used to increase sensitivity for future detection of DNA-abasic site cross-links.