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Clube**

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(54) **RECOMBINOGENIC NUCLEIC ACID
STRANDS IN SITU**

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(58) **Field of Classification Search**
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See application file for complete search history.

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PUBLICATIONS

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Primary Examiner — Shin Lin Chen

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(57) **ABSTRACT**

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The invention relates to retrieving or modifying target nucleic acids, such as host cell chromosomal DNA, by homologous recombination with vectors that contain homology arms flanked by nuclease cutting sites that have been cut by a nuclease such as Cas to provide recombinogenic nucleic acid strands in situ. The methods described herein can be used in genetic engineering of cells and for gene therapy of cells or organisms.

28 Claims, 23 Drawing Sheets