A numerical study of self-avoiding walks on diluted lattices
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We investigated self-avoiding walks on diluted square lattices around the
percolation threshold and in particular on the incipient critical cluster. Using a
new algorithm, we were able exactly enumerate walks of up a thousand steps,
enabling us to estimate the scaling exponents for the mean squared end-to-end
distance and the average number of chain conformations with high accuracy.
While our results for the end-to-end distance are in good agreement with pre-
nvious findings, those for the number of conformations are surprising and appear
to be in conflict with the commonly assumed scaling law.