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# The Empty Space in Liquids and its Role in Hosting Small Polymers

Here we present insights into the nature of structural heterogeneities in liquid water by characterizing the empty space in the hydrogen bond network. Using molecular dynamics simulations and a battery of data analysis tools, we show that density fluctuations create regions of empty space characterized by a diverse morphology - from spherical to dendritic voids. The environment of the voids allows us for the identification of both low- and high-density water in terms of long-range, collective fluctuations of the water network. We also demonstrate that dendritic voids have shapes that are similar to those of small polymers

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