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Temperature Dependent Adsorption Dynamics of Binary Mixtures of Halomethanes on Graphite and α-quartz Surfaces[1] JONATHAN NEHRING, North Park University, G. LEUTY, MESFIN TSIGE, Southern Illinois University at Carbondale — Using atomistic molecular dynamics simulations, we have investigated the structure and dynamics of binary mixtures of halomethanes (CF_4, CF_3Cl, and CF_3Br) as a function of temperature on two structurally and chemically different surfaces. The initial distribution of the binary mixtures is either they are uniformly mixed or a layer or layers of one component is placed on top of a layer or layers of the other component. As a function of temperature (below and above the melting temperature of CF_4) and the two surface types, we observed a marked change on the concentration, dynamics, orientation, and structure of each of the components in the first layer of the binary mixtures next to the surfaces.

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