



Figure 3. The probability approximation using numerical integration method on a 2-D toy example with different diffusion steps T and sample numbers N . The target distribution is a mixture of four Gaussian distributions, whose means are $(-0.5, -0.5)$, $(-0.5, 0.5)$, $(0.5, 0.5)$ and $(0.5, -0.5)$. The standard deviations and weights of the four components are the same, which are 0.1 and 0.25, respectively. The setting in the paper ($T = 20, N = 50$) can provide an effective approximation for the true log probability. When fewer samples ($T = 20, N = 10$) are used, despite some estimation errors, our method can still assign higher values to high-probability regions.