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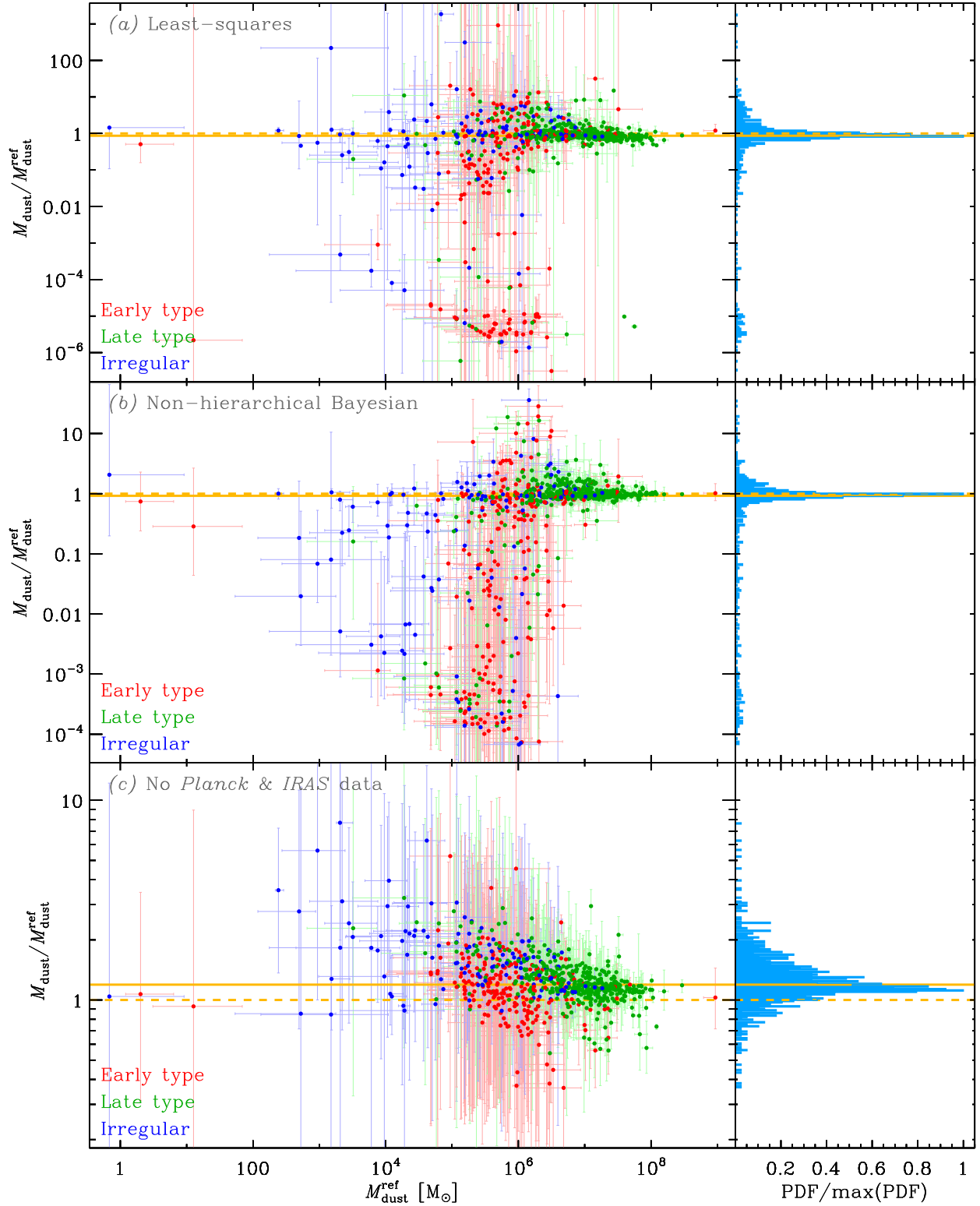


Fig. 4. Robustness assessment. Each of the three horizontal panels of Figs. 4–6 display the comparison of the various tests of Sect. 3.3 to our reference run (Sect. 3.2). *Left column panels:* ratio of either M_{dust} or q_{PAH} , derived from the test (gray label in the top left corner), to its equivalent with the reference run, as a function of $M_{\text{dust}}^{\text{ref}}$. Galaxies are color-coded according to their type. *Right column plot:* PDF (normalized) of the distribution of the ratio. The median of the ratio is displayed as an orange solid line. The 1:1 ratio is highlighted as an orange dashed line. This figure shows the influence of various fitting methods.

demonstrate the importance of the fitting method. The result is shown in panel a of Fig. 4. The results for sources with high signal-to-noise ratio ($M_{\text{dust}}^{\text{ref}} \gtrsim 10^6 M_{\odot}$; mainly LTGs) are in very good agreement with the reference run. However, there is a sig-

nificant scatter for sources with $M_{\text{dust}}^{\text{ref}} \lesssim 10^6 M_{\odot}$ (mainly ETGs and irregulars). Furthermore, there are more drastic underestimates than overestimates. The galaxies with $M_{\text{dust}} / M_{\text{dust}}^{\text{ref}} \simeq 10^{-5}$ are indeed essentially sources with only far-IR upper limits,