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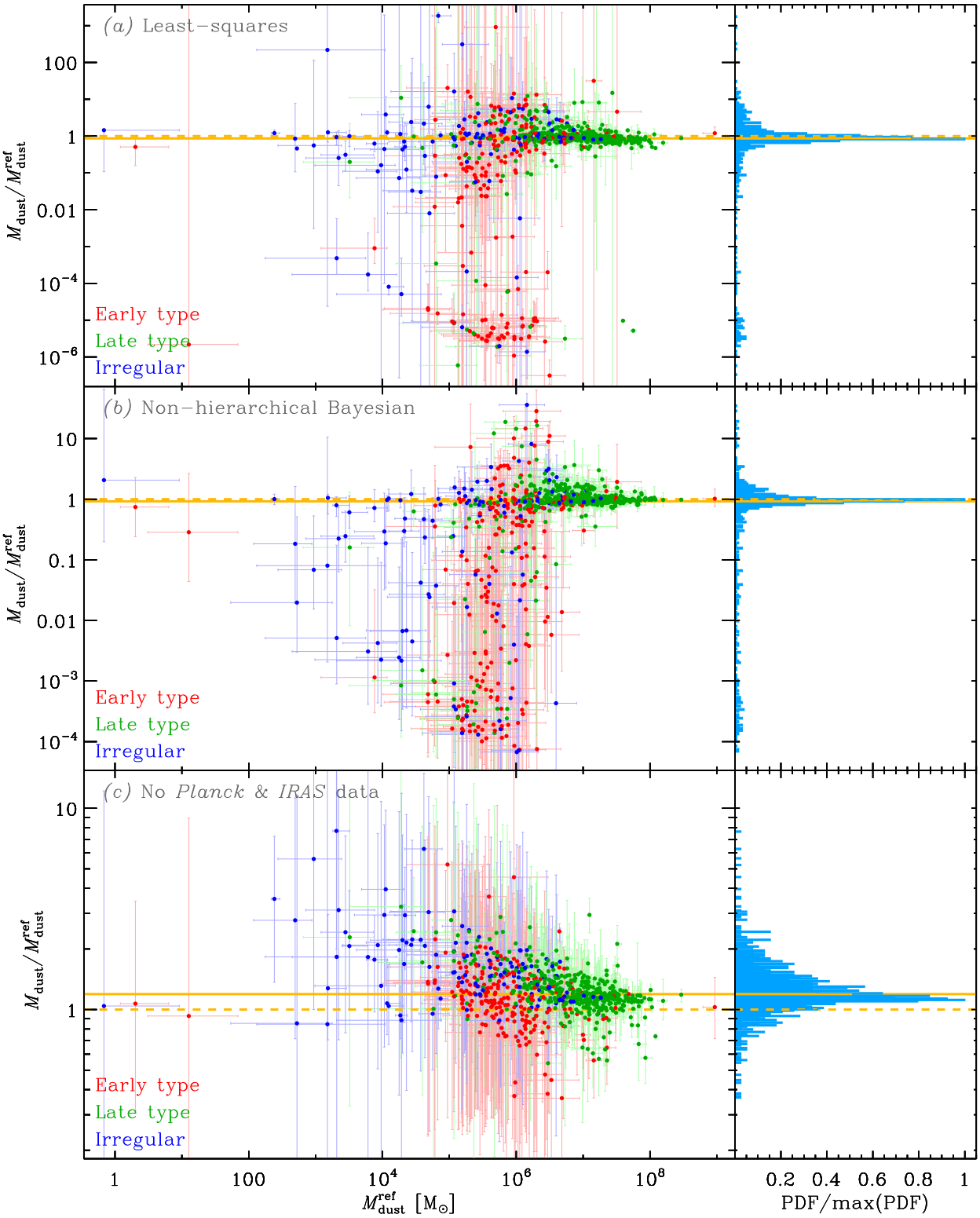

Fig. 4. Robustness assessment. Each of the three horizontal panels of Figs. 4–6 display the comparison of the various tests of Sect. 3.3 to our reference run (Sect. 3.2). *Left column panels*: ratio of either $M_{\rm dust}$ or $q_{\rm PAH}$, derived from the test (gray label in the top left corner), to its equivalent with the reference run, as a function of $M_{\rm dust}^{\rm ref}$. 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 ($M_{\rm dust}^{\rm ref} \gtrsim 10^6\,M_\odot$; mainly LTGs) are in very good agreement with the reference run. However, there is a significant scatter for sources with $M_{\rm dust}^{\rm ref} \lesssim 10^6\,M_\odot$ (mainly ETGs and irregulars). Furthermore, there are more drastic underestimates than overestimates. The galaxies with $M_{\rm dust}/M_{\rm dust}^{\rm ref} \simeq 10^{-5}$ are indeed essentially sources with only far-IR upper limits,