

FIGURE 1. Diagram of the function `rlm_dpl1_extreme_3a` (blue graphs on the top and the left) and its polyhedral complex $\Delta\mathcal{P}$ (gray solid lines). The set $E(\pi)$ is the union of the faces shaded in green. The heavy diagonal green line $x + y = 1 + f$ corresponds to the symmetry condition (the line $x + y = f$ appears as an edge of F_1). Vertices of $\Delta\mathcal{P}$ do not necessarily project (dotted gray lines) to breakpoints. At the borders, the projections $p_i(F)$ of two-dimensional additive faces are shown as gray shadows: $p_1(F)$ at the top border, $p_2(F)$ at the left border, $p_3(F)$ at the bottom and the right borders.

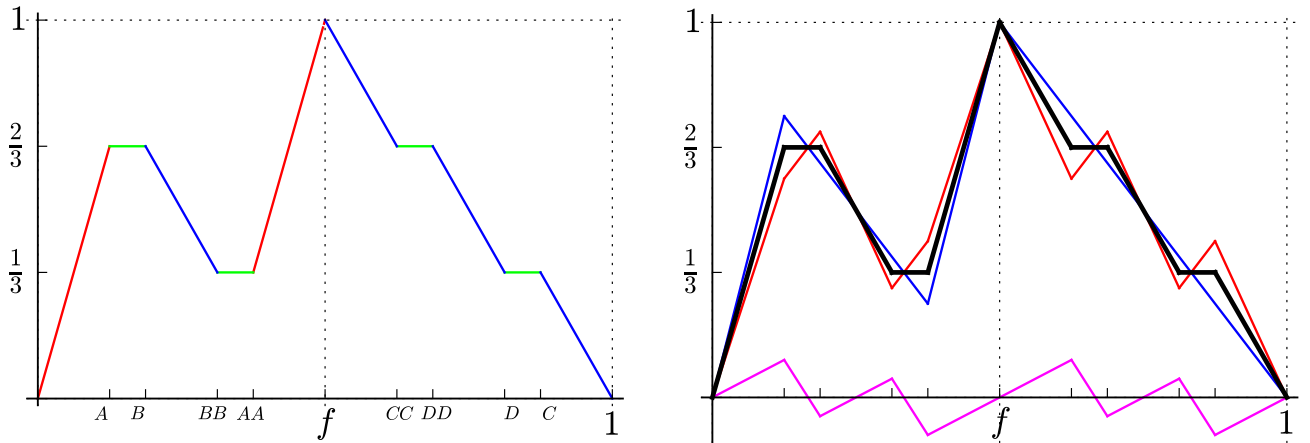
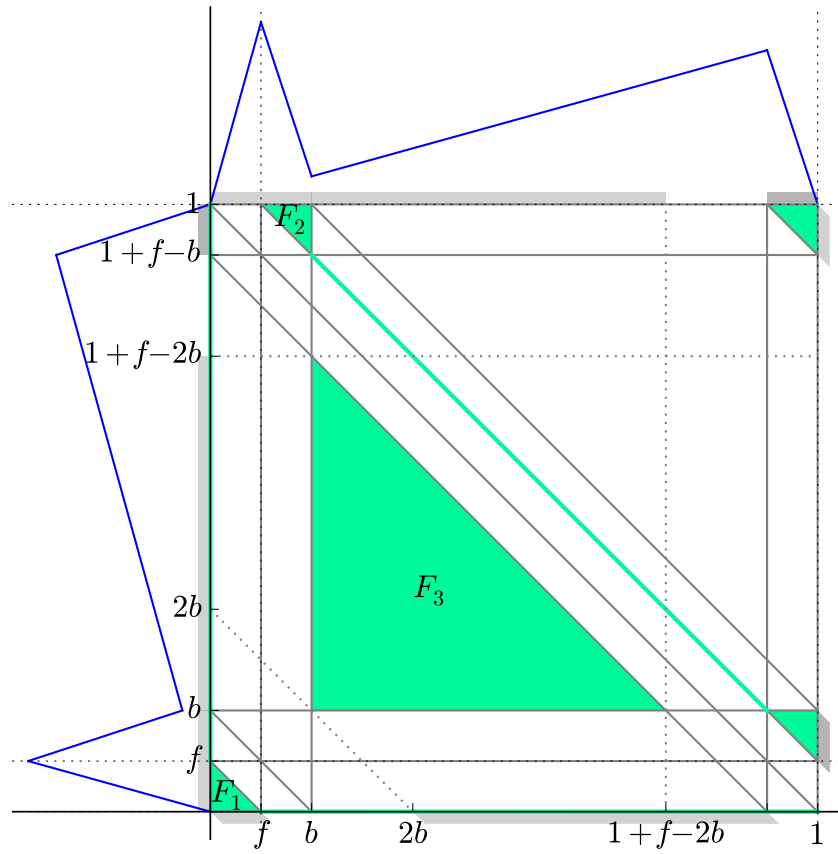
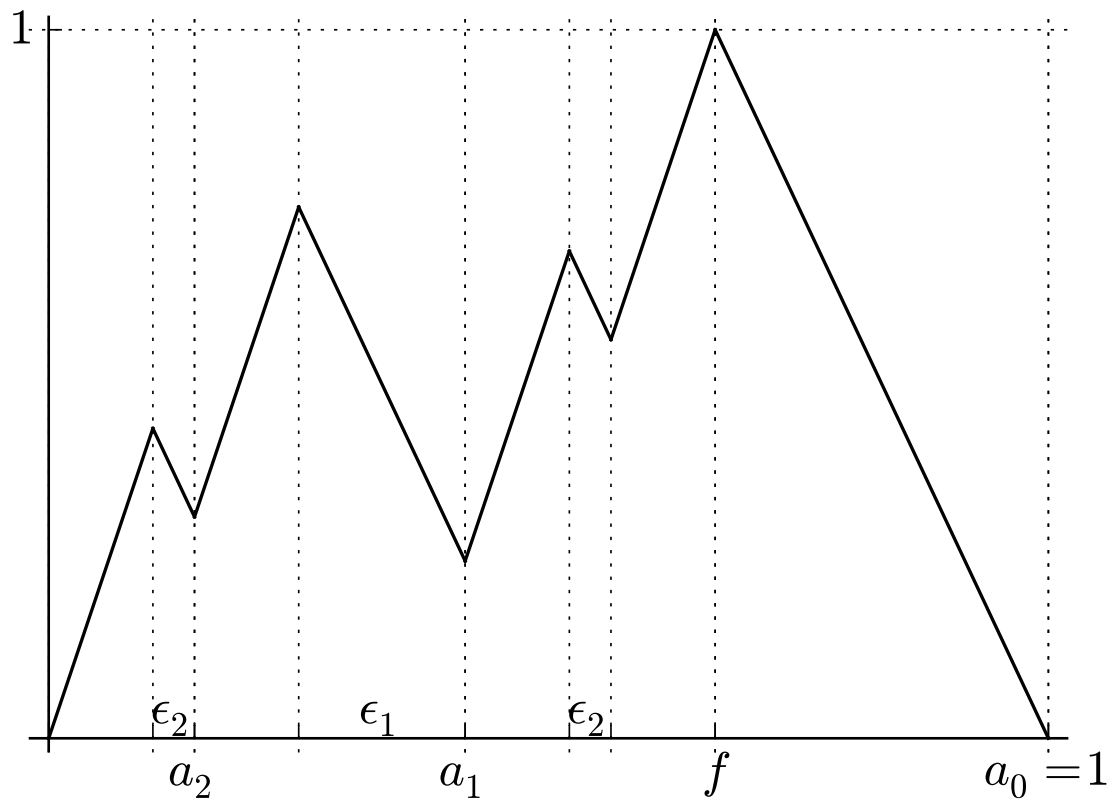


FIGURE 2. The function `chen_3_slope_not_extreme` is minimal, but not extreme, as proved by `extremality_test(h, show_plots=True)`. The procedure first shows that for any distinct minimal $\pi^1 = \pi + \bar{\pi}$ (blue), $\pi^2 = \pi - \bar{\pi}$ (red) such that $\pi = \frac{1}{2}\pi^1 + \frac{1}{2}\pi^2$, the functions π^1 and π^2 are continuous piecewise linear with the same breakpoints as π . A finite-dimensional extremality test then finds a perturbation $\bar{\pi}$ (magenta), as shown.

FIGURE 3. The `dr1m_backward_3_slope` functionFIGURE 4. The `kf_n_step_mir` function