



**Figure 7** Path analysis for forb dominance under overgrazing and overgrazing with N deposition. Solid black lines indicate a significantly positive relationship ( $P < 0.05$ ), and solid green lines indicate a significantly negative relationship ( $P < 0.05$ ). The dashed blue or brown lines indicate weakly ( $P > 0.05$ ) positive or negative relationships, respectively. The width of arrows is proportional to the strength of the path coefficients. **(a)** OG: ( $\chi^2 = 0.924$ ,  $P = 0.630$ ,  $GFI = 0.989$ ,  $NFI = 0.992$ ,  $RMSEA < 0.05$ ). **(b)** OG×N: ( $\chi^2 = 1.757$ ,  $P = 0.415$ ,  $GFI = 0.979$ ,  $NFI = 0.992$ ,  $RMSEA < 0.05$ ). NO<sub>3</sub><sup>-</sup>-N, nitrate nitrogen; NH<sub>4</sub><sup>+</sup>-N, ammonium nitrogen; Pn, net photosynthetic rate; Rs, respiration rate; OG, overgrazing; OG×N, overgrazing with N deposition.