## Supplementary Materials for Diff-Instruct\*

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The used prompts for Figure 1 (from the top row to the bottom row):

- The image features close-up portrait of a face with big eyes, overflowing with a mysterious, ethereal ambiance, capturing a direct gaze with the viewer amidst the chiaroscuro interplay of light and shadow, featuring soft colors alongside a splash of color from variously hued flowers, all set against a green retro Gothic night scene reminiscent of Mr X's style, face illuminated, reflective surfaces enhancing the rich, vivid textures, and the delicate details enhanced by octane rendering, cinematic portrayal.
- The image features seasoned fisherman portrait, weathered skin etched with deep wrinkles, white beard, piercing gaze beneath a fisherman's hat, softly blurred dock background accentuating rugged features, captured under natural light, ultra-realistic, high dynamic range photo.
- A serene meadow with a tree, river, bridge, and mountains in the background under a slightly overcast sunrise sky.

Figure 1: A demonstration of alignment effects of Diff-Instruct\* (Please zoom in to check the details). Left Column: the initial one-step model based on SDXL architecture (i.e., DMD2-SDXL-1step); Right Column: one-step model aligned with Diff-Instruct\* based on SDXL architecture (i.e. DI\*-SDXL-1step). The Diff-Instruct\* alignment significantly improves the image quality, resulting in a better layout, richer details, and aesthetic colors.



Before human-preference alignment



After human-preference alignment with DI\*

Figure 2: A visual comparison of the 0.68B SD1.5-DI\* model before (initialized with SiD-LSG pre-trained weights) and after alignments with DI\*. Clearly, the alignment stage using Diff-Instruct\* significantly improves the visual quality and aesthetic preferences of the generated images.