Invertible Grayscale: Supplemental Material

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1 USER STUDY QUESTIONNAIRES

We have two user studies. One of them evaluates the similarity between the restored color image and the original color image. The other evaluates the quality and visual conformity of the generated grayscale image. In both user studies, 14 example images are used, including all images shown in Fig. 3 and Fig. 12 of the paper. The questionnaires for the two user studies are presented in Fig. 1 and Fig. 2 respectively. The statistics is presented and discussed in Section 7.3 in the paper.

Color image 1   Color image 2

Q1: Give a score to indicate the similarity of the two color images. (0: very different; 5: exactly the same)

	0	1	2	3	4	5
1. Grayscale 1	○	○	○	○	○	○
2. Grayscale 2	○	○	○	○	○	○

Fig. 1. Questionnaire for color image evaluation in the user study.

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| Input | Grayscale 1 | Grayscale 2 |

Q1: Which grayscale do you prefer ?

○ Grayscale 1

○ Grayscale 2

○ Both

Q2: Give a score to each grayscale based on their conformity to the color image, e.g. content, detail, contrast, etc. (0: very low conformity; 5: very high conformity)

	0	1	2	3	4	5
1. Grayscale 1	○	○	○	○	○	○
2. Grayscale 2	○	○	○	○	○	○

Fig. 2. Questionnaire for grayscale image evaluation in the user study.

2 MORE RESULTS

We present more results in Fig. 3.

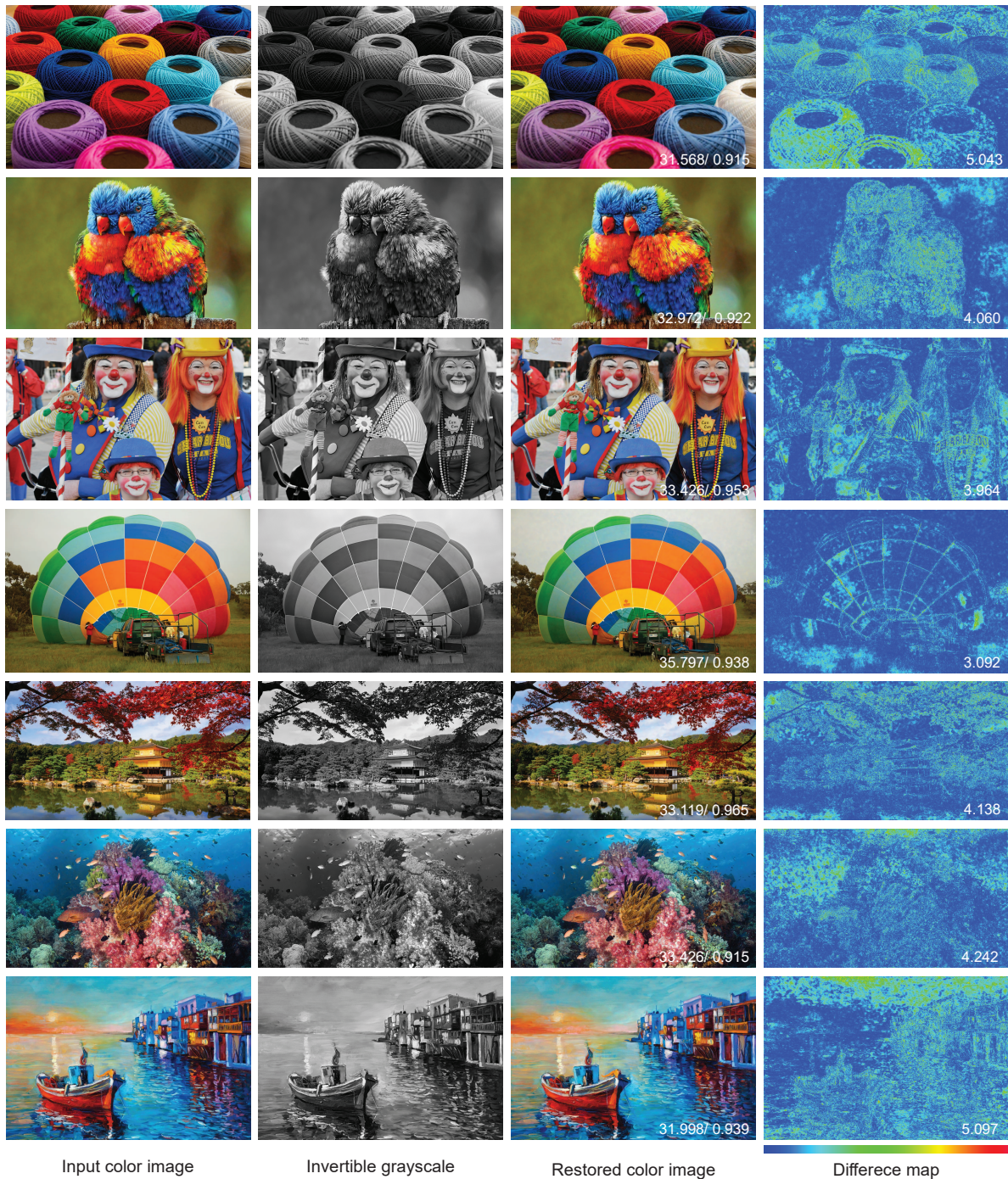|			
Input color image	Invertible grayscale	Restored color image	Differece map

Fig. 3. More results: The PSNR/SSIM with respective to the groundtruth are annotated in the restored color images. The difference maps between the restored color images and the groundtruth are illustrated in the range $[0, 32]$. The MAE with respective to the groundtruth are annotated in the difference maps.