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[1] . [J]. , 2020, 3(04): 14-15.

[2] . Photoshop [J]. , 2020, 27(01): 197-198.

[3] . PTGui Pro Pano2VR [J]. , 2012(04): 66-69.

[4] . PTGui [J]. , 2010(06): 71-72.

[5] . Photoshop [J]. , 2019, 15(31): 273-274+277.

[6] . [J]. (), 2019, 37(04): 12-14.

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