For reflected light images, invert the image first!

if registration fails, try lowering the transformation try to estimate features using

Plugins -> Features -> Extract SIFT Correspondances

Try different options (perspective, affine, similarity, rigid, translation).

If enough features are available, record the transformation:

Estimated transformation model: [3,3](AffineTransform[[1.000035471405391, 0.010649011453837, 128.55966611745882], [-0.010649011453837, 1.000035471405391, 441.5080567834866]]) 7.004360034919451

Then make the transformation:

Plugins -> ImageScience -> TransformJ -> TransformJ Affine

Click “Create”

A new window will pop up with a 4×4 matrix.

The SIFT transformation is recorded as a 3×3 matrix:

This can be converted into a 4×4 matrix: