

PHILOSOPHY

ISOLATED VERTICAL OR HORIZONTAL LINES IN GEL IMAGES ARE NOT JPG COMPRESSION ARTIFACTS

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I frequently find the [PubPeer excuse of compression artifacts](#) in doctored images.

So lets have a look at that issue using the [jpegoptim \(manpage\)](#) and also [jpeginfo \(man-page\)](#). These are the usual effects

- Ringing - high contrast areas with waves
- Contouring, Banding, Pposterisation - extreme brightness changes
- Staircase noise - along curving edges
- Blockiness in "busy" regions - may mimick duplications
- Gibbs phenomenon - small highlighted area of large contrast
- Alias, Moiré, frequent color/brightness change

Now let's have a look at the compression artifacts in descending quality (BTW this also good exercise for the upcoming 125kB Content Upload Filter, I am therefore adding file-size also)



original image 893kB



maximum image quality factor 64% 172kB



maximum image quality factor 32% 105kB



maximum image quality factor 16% 65kB



maximum image quality factor 8% 38kB



maximum image quality factor 4% 23KB



maximum image quality factor 3% 19kB



maximum image quality factor 2% 18kB



maximum image quality factor 1% 18kB

Maybe the most frequent issue that I see in published PDFs is the 4% or 8% blockiness in the shadow area.

Issues like sharp vertical or horizontal lines in images of gel blots are no compression artifacts but due to rectangle selections from copied image areas.