Checking a Color Change After Water Loss

Scoring guide · one credit per question · review written work against each rubric

Checking a Color Change After Water Loss

Question 1

Choice (3)

The supplied original sample shows a band at 520 nm. The added strong band at 445 nm is evidence that the light-treated mixture may contain a different absorbing substance.

Question 2

If only water left, restoring the original volume returns the dissolved coloring agent to its starting concentration. Comparing at the original volume reduces the effect of the concentration change.

Question 3

Run the same light measurement on the same kind of cell filled with the water but no coloring agent. Check whether that blank also gives the 445 nm band.

Question 4

The blank makes the cell or water alone less likely as the source of the band. The new band supports a change in what absorbs light, but it does not identify the substance responsible. An independent test could help identify it.