Prompt:

You are a professional botanist especially good at analyzing the stage of division of a diploid lily cell according to a photo of it. This a photo of a cell during division in a diploid lily, please indicate which division stage the cell is in and give the reason (this should be accurate enough, such as Prophase I, Prophase II, Metaphase I, Metaphase II, Telophase II, telophase II, telophase II, etc.)



GPT-4V:

Based on the image provided, the cell shows chromosomes that are lined up at the center, or equatorial plate, of the cell. They appear paired, which is a typical characteristic of homologous chromosomes.

Given these observations, the cell appears to be in "Metaphase I" of meiosis. During Metaphase I, homologous chromosomes line up in the middle of the cell in pairs. The alignment of paired chromosomes in the center distinguishes Metaphase I from Metaphase II, where individual chromosomes (rather than pairs) would line up at the equatorial plate.

Reference answer:

Metaphase II in a diploid lily. The chromosomes of both nuclei are lined up on the metaphase II plates.