



FIGURE 15-20 The fakir method applied to surface-area and volume estimation of a tobacco cell chain using the FAKIR program. The process of marking intersection points between the cell surface and the fakir probe is shown during focusing through the cell chain. Three serial optical sections of the cell chain are shown in (a), (b), and (c). The test lines of the fakir probe piercing the cell chain are green at the beginning of the measurement (a). The violet points denote the intersection points between the test lines and the current section. As soon as such a point comes into contact with the cell profile during focusing-through, it is marked by a mouse as a red point and the part of the test line above this point becomes red (b). On the red part of the test line, its intersection point with the current section is denoted by a yellow point (c). After marking all intersection points, the parts of the Fakir probe lying inside the cell chain are red (d). The length of these red intercepts is used for the cell chain volume estimation while the number of red intersection points is proportional to its surface area. The scale bar represents 20 μm . Reproduced by permission from Kubínová and Janáček (2001). Copyright 1999, John Wiley and Sons, Inc.