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Book review

Chemical Reagents for Protein Modification, R. Lundblad. third ed. CRC Press, Boca Raton. 339 pp., ISBN: 0-8493-1983-8, 121.90 €.

This book "Chemical Reagents for Protein Modification" from Roger L. Lundblad is now available in its 3rd edition. The 1st edition appeared in 1983. This book is directed at scientists who for various reasons are concerned with chemical modification and labeling of proteins. Chapter 1 contains a very comprehensive description of site-directed chemical modification of proteins used as a tool in the area of proteomics. The author cites in this chapter alone 341 references. The method of isotope coded affinity tag (ICAT) is given as a particularly modern, relevant technique. With this technique lysine in the protein to be examined is reacted with a radio-labeled active ester to yield a radio-labeled amide. After enzymatic hydrolysis of this label protein the labeled peptide can be identified by high sensitivity mass spectroscopy.

In the following chapters standard modifications of functional groups of the peptide-backbones are described in detail. The rest groups of interest are: histidine, arginine, carboxyl, cystein, cystin, methionine, and tryptophan. Chapter 12 is concerned with chemical cross linking of peptide chains. Both bis-imidesters and bis-active esters are used in this technique.

The literature cited in this book is up to date and complete. Unfortunately, many of the formulas in the figures are imprecise, charges are missing or incorrect. A simple example is the formula for cyanogens bromide CNBr. This representation is liable to misunderstanding since one thinks about an isonitrile (isocyanide). The formula BrCN is more precise and correct. Mistakes are to be found in the formulas given in pages 47, 126, 135, 150, 167, 290, 292, and 194. These mistakes detract somewhat from the very positive impression given by this book. The 3rd edition is certainly a very valuable monography about modern techniques in chemical protein modification.

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