Creating Templates for Pages of Tiles

Routine analysis of a material is typically coupled with a routine need to print the results in a standard format. CasaXPS provides a means of saving the display information used to present a set of spectra in a tile format file (TFF), however prior to version 2.3.12 of CasaXPS, the use of these TFF files was limited to files for which the block structure is identical to the file used to prepare the TFF file. The new File menu options in version 2.3.12 (Figure 1) allows a TFF file to be loaded, where the only information used to display the data in the Active VAMAS file is the layout of the tiles. Rather than using the context information in the TFF file, the **Load Page Layout File** option defines the layout for the scrolled list of tiles using the information in the TFF file, but initialises each tile using the data in the VAMAS blocks in the active Experiment Frame. Each tile is assigned a single VAMAS block sequentially, while inset tiles are assigned the same VAMAS block as the parent tile. It is also possible in version 2.3.12 to apply a TFF file to all the Experiment Frames currently open in CasaXPS (**Load Page Layout File for All**) and if desired the entire set of open Experiment Frames can be printed (**Print All Windows**). All three File menu options are shown in Figure 1.
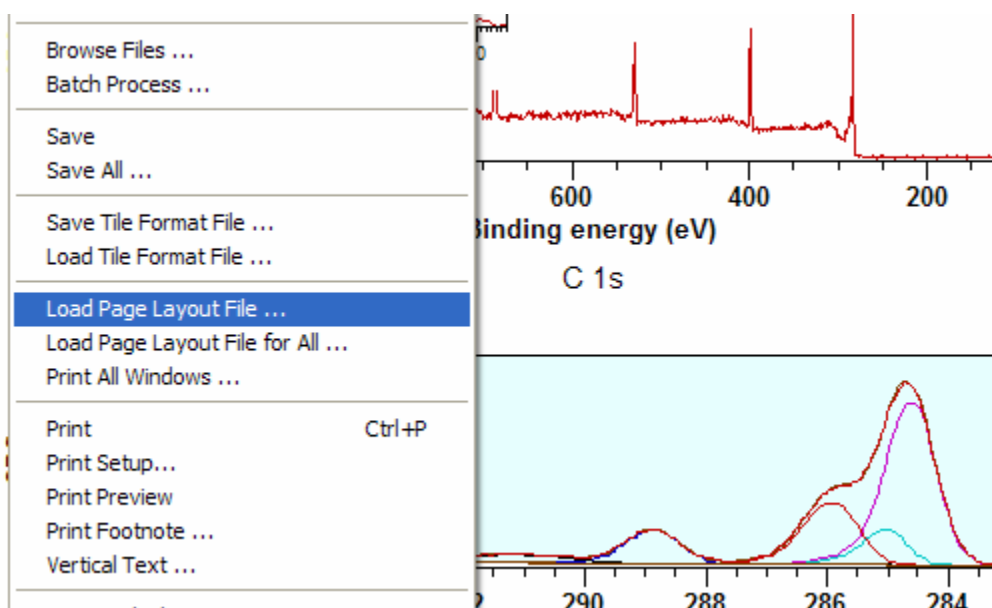

Figure 1: File menu options for saving and loading tile format files.

An Example of using the Load Page Layout File Option

The most commonly performed XPS experiment involves measuring a survey spectrum at a relatively low energy resolution, followed by a more detailed analysis using high resolution spectra over narrow energy ranges. A standard display for such data might be developed by a laboratory, where each and every experiment is processed, organised using the standard display and then printed. If the experiments were identical and identical processing performed on the individual data files, the best way to manage these, essentially identical, large sets of experiments would be

1

via the Batch Processing option (The Casa Cookbook page 215), however for similar but differing experiments the new options are required. Figure 2 is an example of a tile format suitable for a survey spectrum, a high resolution spectrum offering chemical state information plus three high resolution spectra. The same display format is used to show data from a different sample in Figure 3 and illustrates a pair of experiments for which the common page layout is useful.
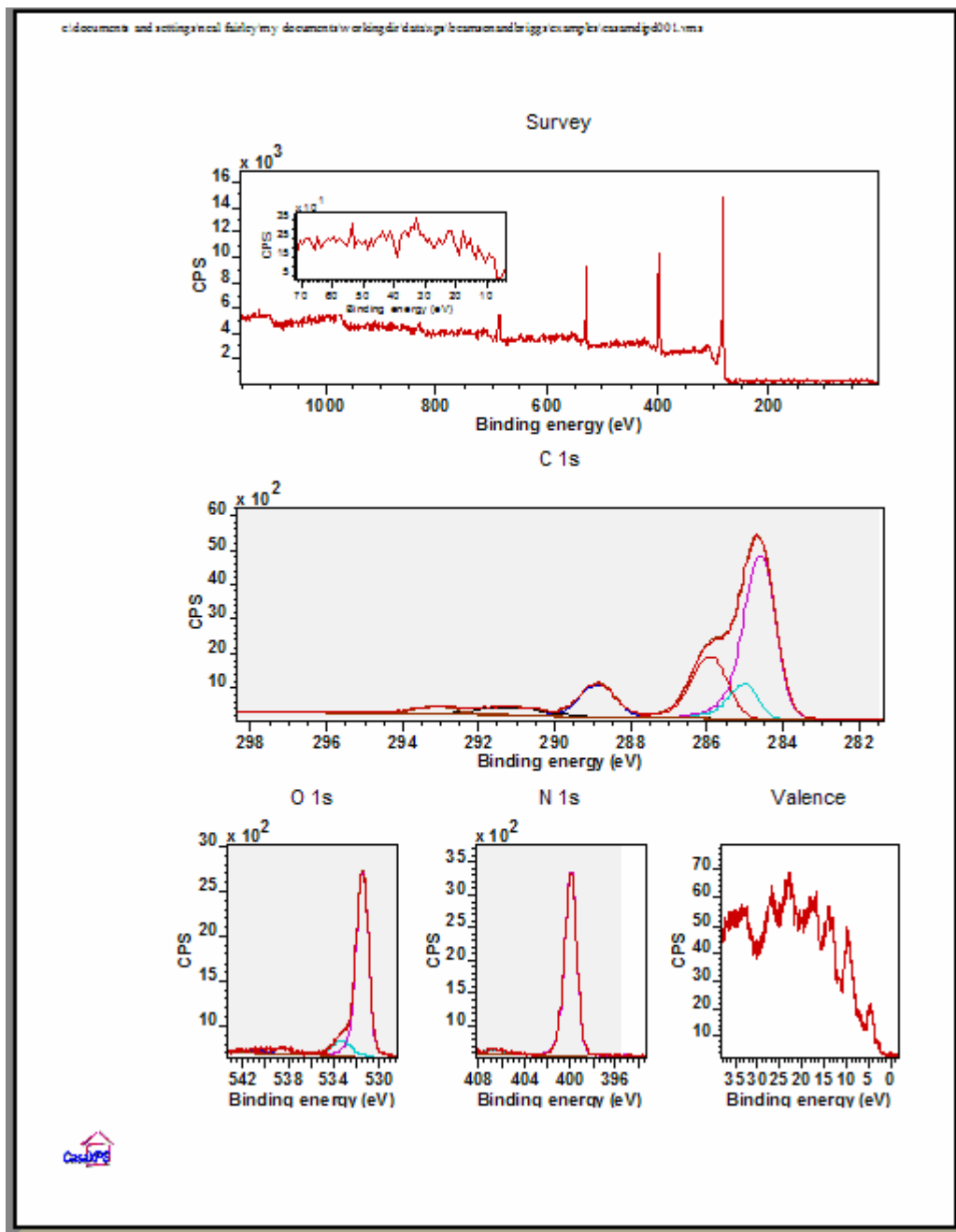
Figure 2: Print preview showing the standard layout for data consisting of a survey, a C 1s region plus three other high resolution spectra.

The format used to display the spectra from two different polymers is first prepared using the Page Tile Format dialog window, adding an inset tile to the first tile and saving the TFF file using the File menu option for saving TFF files (Figure 1). The TFF file will contain additional information suitable for displaying identical experiments, however when applied to an Experiment Frame using the **Load Page Layout File** option only the structure of the tiles is extracted from the TFF file. The labels, titles to tiles etc are extracted from the data in the target Experiment Frame rather than from the information saved in the TFF file. The only display information extracted from the TFF file relates to the inset tile on the survey spectrum. The abscissa range for inset tiles are subject to the definition in the TFF file, while the data displayed in the inset tile will be the same data seen in the parent tile. Note, the behaviour of the Load Page Layout File is different from using the **Load Tile Format File** menu option. In the case of **Load Tile Format File,** the tile titles, axes labels etc. are pulled from the TFF file and so the text displayed in the tiles would, for the sample in Figure 3, not match the data. The ability to define a complete description for a given type of experiment is central to the Batch Processing option, but more flexibility is required for general samples and extending the use of the TFF files to just the page layout saves time for a greater range of experiments than is appropriate for batches of identical samples.

The data in Figure 2 and Figure 3 are taken from the Beamson and Briggs, "The XPS of Polymers Database CD-ROM" ISBN: 0-9537848-4-3. The original Polymer Handbook also appears on the CD-ROM in PDF format, however the CD-ROM contains all the data in ISO 14976 (VAMAS) format and provides a wealth of files for which the **Load Page Layout File** option is most valuable. The **Open** option on the File menu allows multiple-selection of files and so data from the VAMAS directory on the CD-ROM can be opened on mass. When large quantities of data are open in CasaXPS, all of which require the same tile layout, an additional option (Figure 1) **Load Page Layout File for All** offers the means of formatting each window open in CasaXPS using a chosen TFF file. Simply select the **Page Layout File for All** menu option, specify the TFF file using the File Dialog and press the Open button. To further enhance this global formatting action, the **Print All Windows** menu option, also shown in Figure 1, provides a means of printing all the scrolled lists in the left-hand-side of the open Experiment Frames.

File Menu

Load Page Layout File ...
Load Page Layout File for All ...
Print All Windows ...
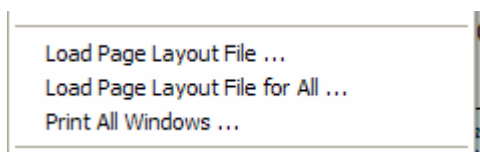
Save Tile Format File: After preparing a page of tiles, the display information defining the left-hand-side of the current Experiment Frame is saved via this menu option. The resulting file is an ASCII file with file extension .tff.

Load Page Layout File: The tile structure used to display spectra in the current Experiment Frame is updated by selecting this option. A file dialog window is invoked, from which a TFF file previously saved using the **Save Tile Format File** option is opened, the result of which is the reformatting of the scrolled list of tiles in the active Experiment Frame.

Load Page Layout File for All: A TFF file opened via this option causes every Experiment Frame window to be reformatted using the tile structure from the previously saved TFF file.

Print All Windows: A global means of printing the left-hand-side scrolled list in each and every Experiment Frame.
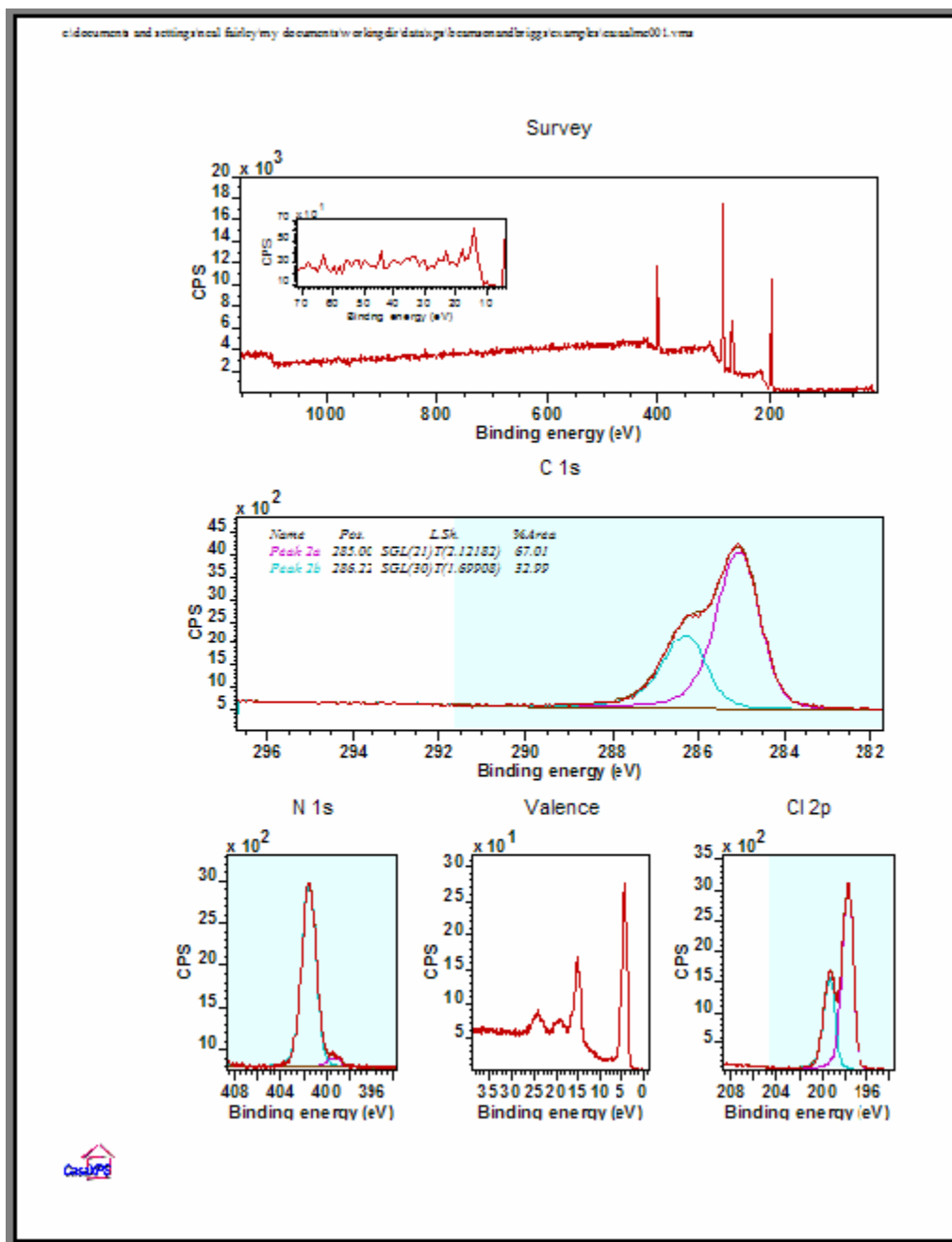

Figure 3: Data from a different sample but with a similar display requirement as the data in Figure 2.