Multiplicity editing in long-range heteronuclear correlation NMR experiments: Application to natural products

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Even C/CH2 and odd CH/CH3 carbon-multiplicity information can be directly distinguished from the relative positive/negative phase of cross-peaks in a novel ME(Multiplicity-Edited)-selHSQMBC experiment. The method can be extended by a TOCSY propagation step, and is also fully compatible for the simultaneous and precise determination of long-range heteronuclear coupling constants. In addition, broadband homonuclear decoupling techniques can also be incorporated to enhance sensitivity and signal resolution by effective collapse of *J*(HH) multiplets. Strychnine, taxol, staurosporine, and sungucine are utilized as model compounds to demonstrate the usefulness of these techniques.