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Supplementary material

The figure S1 shows a 2D HNNCA spectrum obtained with a scheme derived from the *ct*-HNNCA pulse sequence of Grzsiek & Bax,[20] using the same sample and the same experimental conditions as described in Fig.1. A Bruker AMX 600 spectrometer equipped with four channels was used. 140 (t_1) * 512 (t_2) complex points were accumulated, with $t_{1max}(^{15}N, ^{13}C^{\alpha})$ = 11.4 ms and t_{2max} ($^{1}H^{N}$) = 65 ms. 192 scans per increment were acquired, resulting in a total measuring time of 17 hours. Phase-sensitive detection was achieved using States-TPPI [16] in t_1, so that peaks are observed at $\Omega(^{15}N) \pm \Omega(^{13}C^{\alpha})$ along the frequency axis ω_1. Since in this experiment the chemical shift of $^{13}C^{\alpha}$ is not recorded in a phase-sensitive manner, the carrier of the pulses applied to $^{13}C^{\alpha}$ was set to the edge of the spectral range covered by the $^{13}C^{\alpha}$-resonances in order to allow unambiguous assignments. The water signal was reduced by a purge pulse (see Fig. 2) and with the convolution method of Marion *et al.* [21]. The digital resolution after zero-filling was 24 Hz along ω_1 and 7.6 Hz along ω_2. Prior to Fourier transformation the data were multiplied with a cosine window in t_1 and a sine window shifted by 45° in t_2.[22] The spectrum was processed using the program PROSA.[23] (A) Contour plot. The peaks at the ω_2 amide proton frequency of Ile 38 are connected with a vertical line. (B) Cross section along ω_1 at $\omega_2(H^N)$ of Ile 38. Four peaks are observed in this cross section: one pair of peaks (solid arrow) represents the intraresidual connectivity between ^{15}N and $^{13}C^{\alpha}$ of residue Ile 38, the other one (dotted arrow) the sequential $^{15}N_i$–$^{13}C^{\alpha}_{i-1}$ connectivity between Asp 37 and Ile 38. The $^{13}C^{\alpha}$ chemical shifts of Asp 37 (11.8 ppm) and Ile 38 (25.2 ppm) are relative to the ^{13}C carrier position (40.1 ppm). The ^{15}N chemical shift of Ile 38 (120.4 ppm), around which the pairs of peaks are centered, is indicated by a vertical arrow.

"Reduced Dimensionality in Triple-Resonance NMR experiments"

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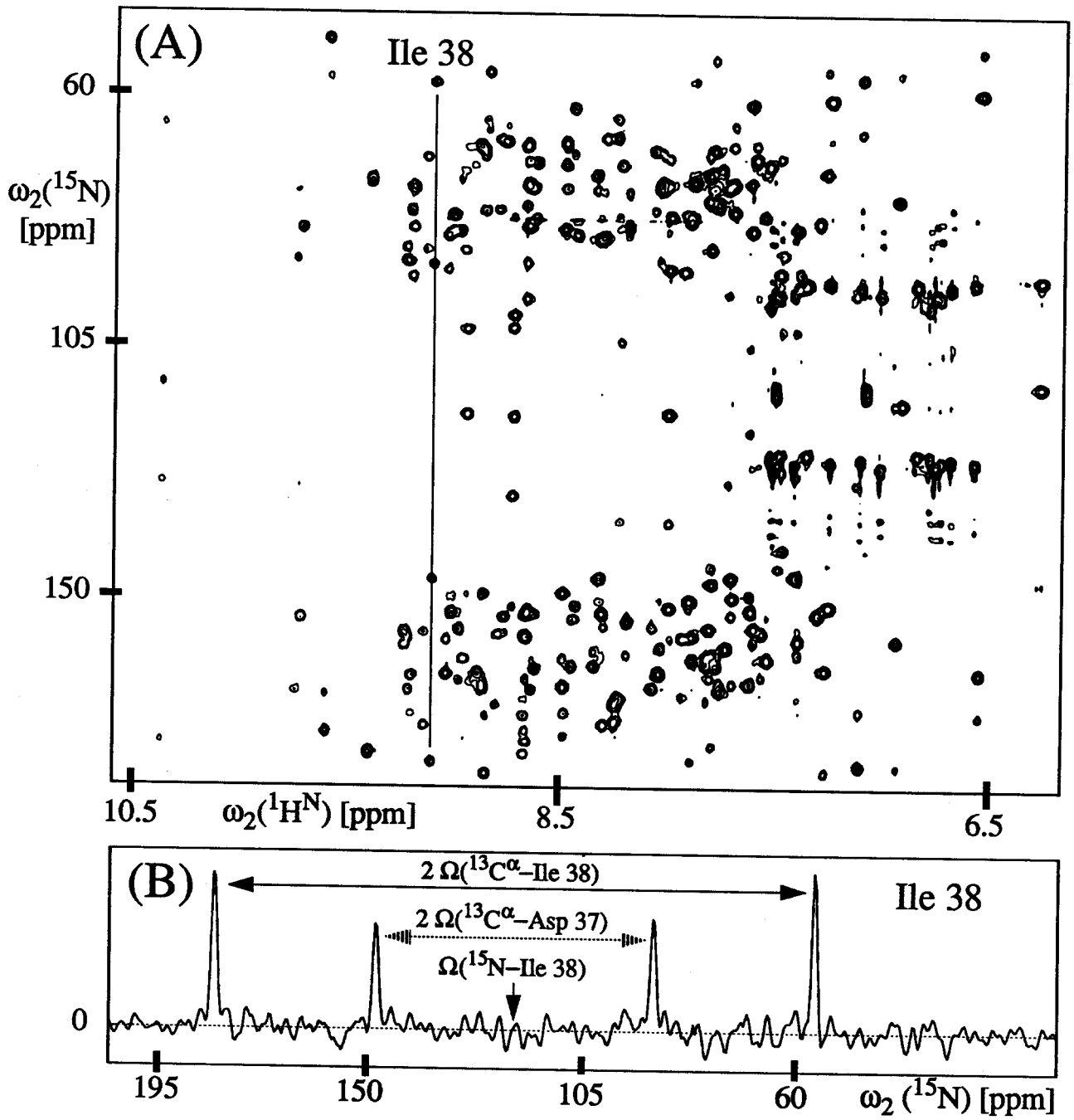

Fig. S1