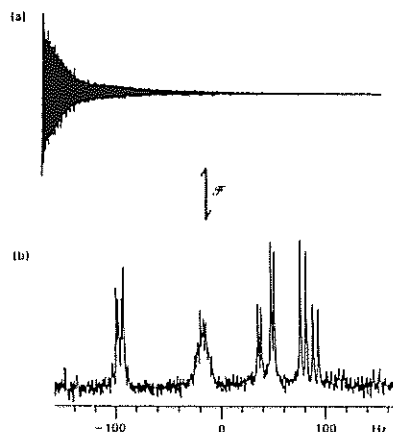


WEIGHTING FUNCTIONS (WINDOW FUNCTIONS)

Fig. C15. A 'noisy' spectrum of 2,5 anhydromannitol (b) and its Fourier partner, a 'noisy' free induction decay (a).

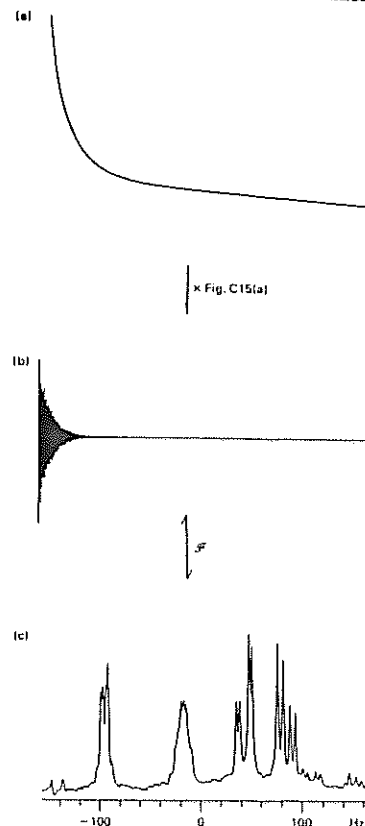


NON-WEIGHTED

From: S.W. Homans, "A Dictionary of Concepts in NMR",
Oxford University Press, revised edition, 1993

Fig. C16. Multiplication of the noisy free induction decay of Fig. C15 by a decaying exponential function (a) gives rise to a free induction decay (b) with fewer noise components. The corresponding spectrum (c) has decreased noise but broader lines.

EXPONENTIAL
decaying



EXPONENTIAL
increasing

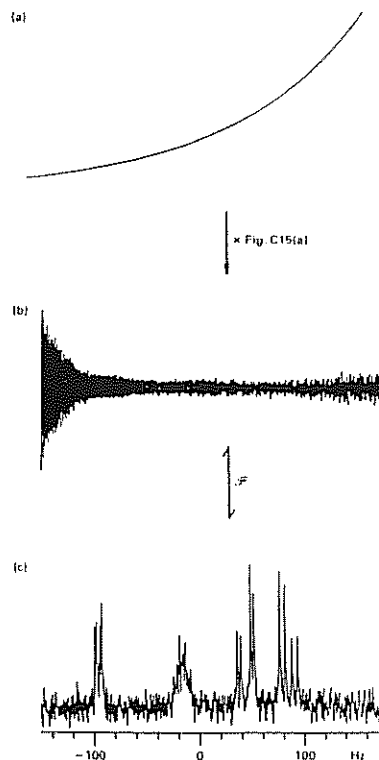
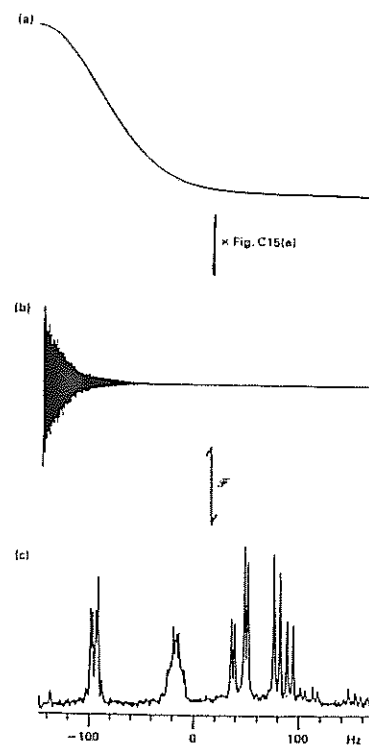


Fig. C17. Multiplication of the free induction decay in Fig. C15 by an increasing exponential (a), amplifies the noise components (b), giving rise to a noisy spectrum (c). The resolution is improved, however.

GAUSSIAN

Fig. C18. Multiplication of the free induction decay of Fig. C15 by a Gaussian function (a) results in a free induction decay (b) which gives a spectrum whose lineshapes are Gaussian rather than Lorentzian (c).



DOUBLE EXPONENTIAL

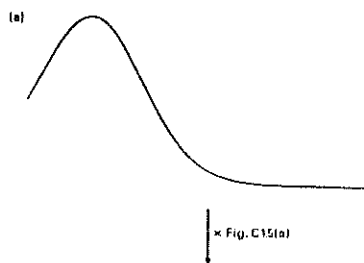
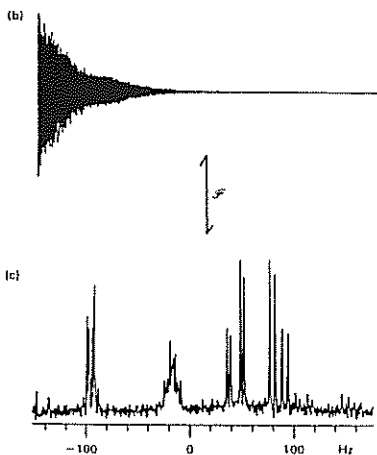


Fig. C19. Multiplication of the free induction decay of Fig. C15 by a double exponential function (a) gives a free induction decay (b) whose spectrum is resolution enhanced without severe degradation of the signal-to-noise ratio (c).



SINE-BELL non-shifted (0°)

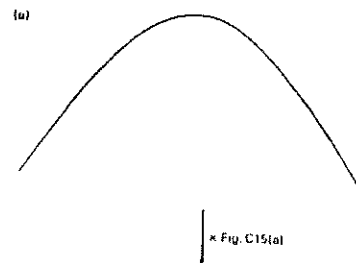


Fig. C20. Multiplication of the free induction decay of Fig. C15 by the sine-bell function (a) gives a free induction decay (b) whose signal-to-noise ratio and distorted lineshapes. However, there is a large improvement in resolution.

