

Exercise 1:

The correct spacing is 1, 3, 9, 27, 81,....

The high time-bw-product is used to generate narrow signals.

Exercise 2:

The flip angles to create 'pure' signals are:

90-180-180

0-90-180

90-0-180

90-90-90

This will fail for the stimulated echo, which will also produce spin echoes.

Exercise 4:

only the first scheme (all phases identical to the phase of the excitation pulse is not a CPMG-sequence.

All other phase schemes are constructed according to:

$0(\text{exc}) - 90 + \alpha - 90 + 3\alpha - 90 + 5\alpha - 90 + 7\alpha \dots$

for different values of α . (α just introduces a frequency shift and CPMG is invariant to frequency shifts.

Exercise 3:

you need identical spoilers after the first and third pulse and a different spoiler after the 2nd pulse to get rid of all spin echoes

