ASSIGNMENT 12

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. Due on 2019-04-24, 23:59 IST.

1) Factor(s) that contribute to non-observation of fine structure in NMR spectrum due to coupling between equivalent nuclei is/are

- indistinguishibility of the nuclei
- mixing of a(1)b(2) and a(2)b(1) wavefunctions
- mixing of a(1) a (2) and b (2)b(1) wavefunctions
- $J_{AA} = 0$

No, the answer is incorrect.
Score: 0
Accepted Answers:
- indistinguishibility of the nuclei
- mixing of a(1)b(2) and a(2)b(1) wavefunctions

2) x-component of nuclear spin angular momenta do not contribute to coupling between non-equivalent nuclei

- non-equivalent nuclei
- equivalent nuclei
- equivalent as well as nonequivalent nuclei
- nuclei with integral spin quantum number

No, the answer is incorrect.
Score: 0
Accepted Answers:
- non-equivalent nuclei

3) Rotating frame of reference is used to record NMR spectra in order to account for precessional motion of bulk magnetization vector about

- x-axis

No, the answer is incorrect.
Score: 0
Accepted Answers:
Accepted Answers:
"z-axis"
"axis of external magnetic field"

4) 90° pulse is required to record spectra in FT-NMR so that

- absorption and emission are separated
- monochromaticity is induced
- bulk magnetization vector has a component along the detector
- bulk magnetization vector has a component along the radiofrequency

No, the answer is incorrect.
Score: 0

Accepted Answers:
"bulk magnetization vector has a component along the detector"

5) Ratio of duration of 90° and 180° pulses of 400 and 500 MHz NMR spectrometers is

- 2:5
- 5:8
- 8:5
- 5:2

No, the answer is incorrect.
Score: 0

Accepted Answers:
2:5

6) 90°-t-180° pulse sequence

- measures spin-lattice relaxation
- measures spin-spin relaxation
- is associated with inversion recovery
- is associated with spin-echo

No, the answer is incorrect.
Score: 0

Accepted Answers:
measures spin-spin relaxation
is associated with spin-echo

7) 90°-t-180° pulse sequence removes the effect of

- inhomogeneity in magnetic field
- different chemical shifts
- spin-lattice relaxation
- spin-spin relaxation

No, the answer is incorrect.
Score: 0

Accepted Answers:
inhomogeneity in magnetic field
different chemical shifts