



قائمة الاسئلة 2025-04-13 09:03

استكشاف وتطوير الدواء - المستوى الخامس - قسم الصيدلة - كلية الصيدلة - الفترة - درجة الامتحان (60)

- 1) The strategy used to design isoprenaline from noradrenaline is termed:
  - 1) - Rigidification
  - 2) ☒ Variation of substituent (N-alkyl substituent)
  - 3) - Ring variation
  - 4) - Simplification
- 2) Strategies that result in increased Brain Penetration of drugs include except:
  - 1) - Reduce P-gp efflux
  - 2) ☒ Increase hydrogen bonds
  - 3) - Increase lipophilicity
  - 4) - Add an intramolecular hydrogen bond
- 3) Structure Modification Strategies to increase PPB include except:
  - 1) - Increase acidity
  - 2) - Reduce basicity
  - 3) ☒ Reduce lipophilicity
  - 4) - Increase nonpolar area
- 4) Introduction of flexible linkers to drug tend to be:
  - 1) - unfavorable for hERG
  - 2) ☒ favorable for hERG
  - 3) - favorable for selectivity
  - 4) - non of the above
- 5) Change phenolic hydroxyl to cyclic urea or thiourea leads to
  - 1) ☒ Increase Phase II Metabolic Stability
  - 2) - Increase Phase I Metabolic Stability
  - 3) - decrease Phase II Metabolic Stability
  - 4) - non of the above
- 6) it is described by integrating Newton's second law of motion ( $F=ma$ ):
  - 1) - The Monte Carlo method
  - 2) - The Metropolis method
  - 3) ☒ Molecular dynamics calculations
  - 4) - The genetic algorithm method
- 7) Drug target validation involves:
  - 1) - druggability assessment
  - 2) - assayability assessment
  - 3) - genetic assessment
  - 4) ☒ all of the above
- 8) Post-marketing safety review for drugs are performed in:
  - 1) - Clinical phase II
  - 2) - Clinical phase I
  - 3) ☒ Clinical phase IV
  - 4) - Clinical phase III
- 9) The false-positive results obtained by HTS can be checked using:
  - 1) - ITC
  - 2) ☒ NMR
  - 3) - SPR
  - 4) - non of the above



- 10) Target identification and validation, in vitro efficacy assays, physicochemical assays have to be achieved in:
- 1) - Clinical phase II
  - 2) - Clinical phase I
  - 3) + Preclinical phase
  - 4) - Clinical phase III
- 11) Ring vs non-cyclic derivative is a strategy belongs to:
- 1) - Simplification
  - 2) - Variation of substituents
  - 3) - Classical bio-isosterism
  - 4) + Non-classical bio-isosterism
- 12) It is not among of strategies used for increasing drug-target interaction:
- 1) - Ring variation
  - 2) - Conformational blocker
  - 3) + Metabolic blocker
  - 4) - Chain contraction
- 13) It calculates the electronic energy with high accuracy :
- 1) - Semi-empirical method
  - 2) - Molecular Mechanics
  - 3) + Ab-initio method
  - 4) - Non of the above
- 14) They have been widely used in FBDD as SCREENING METHODS for FRAGMENT:
- 1) - ITC
  - 2) - NMR
  - 3) - X-ray crystallography
  - 4) + All of the above
- 15) SPR is the abbreviation of:
- 1) - Scanning plasmon resonance
  - 2) + Surface plasmon resonance
  - 3) - Scintillation proximity resonance
  - 4) - All of the above
- 16) Procaine is obtained from cocaine through:
- 1) + Simplification
  - 2) - Rigidification
  - 3) - Ring fusion
  - 4) - Ring expansion
- 17) For fragment-like compounds:
- 1) - HAC 19 – 25 and LE of 0.25 is recommended
  - 2) + HAC  $\leq 18$  and LE of 0.32 is recommended
  - 3) - HAC 26 -35 and LE of 0.19 is recommended
  - 4) - Non of the above
- 18) All statement about drug rigidification are correct except:
- 1) - It is obtained by introduction of double bond
  - 2) - It enhances the selectivity
  - 3) + It increases drug flexibility
  - 4) - It is a method of conformational restriction
- 19) All statement about LUMO are correct except:
- 1) - it has to be of smaller numerical value
  - 2) - its numerical value has to be negative
  - 3) + it is an electron donor,



- 4) - its smaller number indicates that it is easy to accept an electron.
- 20) Highly selectivity and specificity is among the requirement of:
- 1) - Hit
  - 2) - Fragment
  - 3) - Lead
  - 4) ☒ Drug candidate
- 21) It provides valuable experimental information about the precise dimensions of drug molecules:
- 1) - ITC
  - 2) - SPR
  - 3) ☒ X-ray crystallography
  - 4) - Non of the above
- 22) Increase acidity of drug leads to except:
- 1) - decrease passage through BBB
  - 2) ☒ Reduce PPB
  - 3) - decrease hERG blocking
  - 4) - reduce P-gp Efflux affinity
- 23) Strategy utilized to increase activity of morphine via addition of phenylethyl group is called:
- 1) - Simplification
  - 2) - Rigidification
  - 3) - Ring fusion
  - 4) ☒ Extension of the structure
- 24) Rule for P-gp is referred to as “
- 1) - Rule of 5
  - 2) ☒ Rule of 4
  - 3) - Rule of 3
  - 4) - Non of the above
- 25) HTS is abbreviation of:
- 1) - high-throughput synthesis
  - 2) - high-thought screening
  - 3) ☒ high-throughput screening
  - 4) - hot-throughput synthesis
- 26) Quantum mechanical method is suitable for calculating the Molecular orbital energies and coefficients
- 1) ☒ true.
  - 2) - false.
- 27) The presence of negatively ionizable groups in drug molecules tend to be favorable for hERG
- 1) - true.
  - 2) ☒ false.
- 28) Molecular Mechanics is used to obtain molecular models
- 1) ☒ true.
  - 2) - false.
- 29) Decreasing intermolecular crystal forces in the physical form reduces solubility
- 1) - true.
  - 2) ☒ false.
- 30) Testing of the drug on 20–80 healthy volunteers to assess the safety and pharmacokinetics, and actions on the body is performed in Clinical phase II
- 1) - true.
  - 2) ☒ false.
- 31) Global energy minimum is energy minimization of the first stable conformation
- 1) - true.



- 2) ☒ false.
- 32) A hit is a molecule that shows activity and selectivity in vitro and first evidence of in vivo activity
- 1) ☐ true.
- 2) ☒ false.
- 33) A fragment is compound with molecular weight less than 300 Da
- 1) ☒ true.
- 2) ☐ false.
- 34) It has to accept any fragments containing acyl halogen or aziridine in their structures
- 1) ☐ true.
- 2) ☒ false.
- 35) It is suggested that fragments should follow the rules of five
- 1) ☐ true.
- 2) ☒ false.
- 36) The Metropolis method allows the identification of the most stable conformations
- 1) ☒ true.
- 2) ☐ false.
- 37) Molecular Mechanical method is suitable for calculating the energy minimization
- 1) ☒ true.
- 2) ☐ false.
- 38) Bio-informatics attempts to combine data from varying Sources like SBDD studies
- 1) ☐ true.
- 2) ☒ false.
- 39) changes in pKa affect efficacy and ADMET of drug
- 1) ☒ true.
- 2) ☐ false.
- 40) Cyclization affects Phase I Metabolic Stability
- 1) ☒ true.
- 2) ☐ false.
- 41) In rule of five, the hydrogen bonding donors have to be less than 10
- 1) ☐ true.
- 2) ☒ false.
- 42) Out-of-plane substitution to reduce crystal packing is a strategy used to improve solubility
- 1) ☒ true.
- 2) ☐ false.
- 43) Changing an amide to ester is among Strategies used for Plasma Stability Improvement
- 1) ☐ true.
- 2) ☒ false.
- 44) LLE means ligand-lyophilize effort
- 1) ☐ true.
- 2) ☒ false.
- 45) The hit-to-lead stage of the early drug discovery process is aimed to produce compounds and compound series with greater potency and selectivity, and with adequate PK properties
- 1) ☒ true.
- 2) ☐ false.
- 46) As the aromaticity of drug increases, the binding with hERG channel reduces
- 1) ☐ true.
- 2) ☒ false.
- 47) The ligand-based drug design approach involves the analysis of ligands known to interact with a target
- 1) ☒ true.



- 2) - false.
- 48) IND means investment novel drug
- 1) - true.
- 2) ☒ false.
- 49) CoMFA helps in optimizing the properties of lead compounds
- 1) ☒ true.
- 2) - false.
- 50) It is possible to screen 1000 small-molecular-weight compounds a day with one NMR machine
- 1) ☒ true.
- 2) - false.