PRACTICE: PHOTOPHOSPHORYLATION

24. Which of the following about photosynthetic light reactions in plants is *false*?

a. A membrane bound ATPase couples electron transport to ATP synthesis
b. No CO_2 is fixed by the light reactions
c. The ultimate electron acceptor is O_2
d. The ultimate source of electrons for electron transport is H_2O
e. There are two distinct but linked photosystems

25. Cyclic electron flow produces:

a. ATP, NADPH, O_2
b. ATP and O_2, but no NADPH
c. ATP but no O_2 and NADPH
d. ATP and NADPH but no O_2
e. O_2 but no ATP and NADPH

26. Archaea have rhodopsins which use light to generate:

a. ADP
b. fixed CO_2
c. NADPH
d. Proton motive force
e. All of the above

27. In the chloroplast membrane, a photosystem contains many chlorophyll molecules which:

a. are all involved in PS1
b. are all involved in PS2
c. reduce $NADP^+$
d. oxidize $NADP^+$
e. mainly transfer excited states to the reaction center chlorophyll

28. A mole of red light at 680 nm wavelength contains energy equivalent to:

a. 4.4×10^{14} J
b. 2.91×10^{-19} J
c. 175.1 kJ
d. 2.91 kJ
e. 4.4×10^{11} kJ