Provide reasonable mechanisms for the following transformations. (5 points each)

1. [Chemical structures and reactions]

2. [Chemical structures and reactions]

3. [Chemical structures and reactions]

4. [Chemical structures and reactions]

5. [Chemical structures and reactions]

6. [Chemical structures and reactions]

7. [Chemical structures and reactions]

8. [Chemical structures and reactions]

9. [Chemical structures and reactions]

10. [Chemical structures and reactions]
Provide simple syntheses for the following compounds. (5 points each)
(You may not use Pd or other similar metals that achieve cross-coupling.)
Hint: Most syntheses possible in 1–3 steps.