|  |  | **Parameter** | **Classical Trend** | **Murburn Trend** |
| --- | --- | --- | --- | --- |
| **1** | **Structural** | **Heme?** | No | Yes |
| **2** |  | **Flavin?** | Usually No | Sometimes |
| **3** |  | **FeS?** | Rare | Sometimes |
| **4** |  | **Constrained access to active site** | No | Yes |
| **5** |  | **Substrate larger than active site** | No | Sometimes |
| ***6*** | ***Theoretical*** | ***Redox/ET reaction?*** | *No* | *Yes* |
| ***7*** |  | ***Exergonic?*** | *Mixed* | *Yes* |
| ***8*** |  | ***Oxygen needed?*** | *Usually No* | *Usually Yes* |
| ***9*** |  | ***DRS involvement?*** | *Usually No* | *Yes* |
| ***10*** |  | ***Reversible*** | *Yes* | *Need not be* |
| **11** | **Experimental** | **Selectivity for substrates?** | Yes | No |
| **12** |  | **Specificity of products?** | Yes | No |
| **13** |  | **Diversity of modulators?** | No | Yes |
| **14** |  | **Non-integral stoichiometry?** | No | Yes |
| **15** |  | **Variable stoichiometry?** | No | Yes |
| **16** |  | **Unusual values KM < Kd; high Int. KIE** | No | Yes |
| **17** |  | **Catalytic rate exceeding diffusion limits?** | No | Yes |
| **18** |  | **Atypical substrate dependence** | No | Yes |
| **19** |  | **Bulk phase dependency (ionic/dielectric)** | No | Yes |
| **20** |  | **Atypical temperature dependence** | No | Yes |
| **21** | **Postulates** | **Shape-change needed?** | Sometimes | No |
| **22** |  | **Multi-substrate Serial/Sequential?** | Yes | No |
| **23** |  | **Complex requirements?** | Sometimes | No |
| **24** |  | **Molecularity of key Intermediates?** | Sometimes high | Low |
| **25** |  | **Number of mechanistic steps?** | High | Moderate |
| **26** |  | **Probability index?** | Low | Moderate |
| **27** |  | **Long distance OS-ET?** | Sometimes | No |
| **28** |  | **High affinity E+S complex** | Yes | Usually No |