**Table S3**: Strain energy values (mJ)

|  |  |  |  |
| --- | --- | --- | --- |
| Taxon | Bilateral Regime | Unilateral Regime | Head Shaking Regime |
| *Ebrachosuchus neukami* | 372114 | 373320 | 99904.9 |
| *Ebrachosuchus neukami*(no antorbital fenestra) | 479159.3 | 480097.7 | 123228 |
| *Ebrachosuchus neukami*(Palate removed) | 418747 | 422903 | 114214 |
| *Gavialis gangeticus* | 71934.4 | 72201.9 | 20560.4 |
| *Gavialis gangeticus*(Palate removed) | 83068.1 | 85222.8 | 24009 |
| *Alligator mississippiensis* | 10623.9 | 10701.9 | 2731.7 |
| *Crocodylus niloticus* | 14402.4 | 14714.5 | 4052.9 |