Group (1-3 people):

(1) First guess a good parsimonious tree for species 1, 2, 3, 4, and 5 from the multiple alignment. Then evaluate the score of this tree using a cost matrix of 3 for a transversion and 1 for a transition (A-to-G or C-to-T) and the Sankoff algorithm. You can save some effort by first grouping sites in to categories, and by calculating the cost of uninformative sites without using the Sankoff algorithm.

Species	Sites			
1	A	G	С	С
2	Т	С	С	С
3	A	G	Α	С
4	A	G	Τ	С
5	Т	С	Τ	Т