

### A Gene alignments

1 ———  
2 ———  
3 ———  
4 ———

1 ———  
2 ———  
3 ———  
4 ———

1 ———  
2 ———  
3 ———  
4 ———

1 ———  
2 ———  
3 ———  
4 ———

### B Concatenated alignment

1 ——— ——— ——— ———  
2 ——— ——— ——— ———  
3 ——— ——— ——— ———  
4 ——— ——— ——— ———

**FIGURE 27.27.** Concatenation. Separate alignments of individual genes can be combined together into “mega alignments” by concatenation, whereby the alignments are stitched together keeping the genes from one organism together in each row. (A) Alignment of four genes (*different colors*) for four species (1–4). (B) Concatenation of four genes.