**Virologica Sinica**

**Supplementary Data**

**Cross-species transmission and host range genes in poxviruses**

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**Figure S1**. *P*-value of co-evolutionary analysis of *Orthopoxvirus.*

**Figure S2.** Co-evolutionary of *Poxviridae* with *P*-value. **A** Co-divergence and host switch of poxviruses and their hosts. The co-divergence (co-evolution) and cross-host transfer events among poxviruses and their hosts was examined using eMPRess program. The host tree was marked in black with virus tree in blue, and different events were marked withdifferent symbols. Co-divergence, duplication, host switching, and loss events were marked with filled circles, diamond, squares, and dotted lines, respectively. The cost of each event was set as follows: co-divergence = 0, duplication = 1, transfer (host switch) = 1, and loss = 1. **B** *P*-value of co-evolutionary analysis of *Poxviridae*.

**Figure S3.** The connection of phylogenetic tree and the alignment of HRGs of orthopoxviruses. The value of boots trapunder 50 in the phylogenetic tree are not shown. Orthopoxviruses infecting hosts belonging to different orders are marked with different colors.

**Supplementary Table S1.** Reference of cross-species transmission.

Excel file in Supplementary materials.

**Supplementary Table S2.** Mutations of MPXV ANKF-box compared to VACV, CPXV and VARV.

Excel file in Supplementary materials.