

OptCtrlPoints: Finding the Optimal Control Points for Biharmonic 3D Shape Deformation — Supplementary Material

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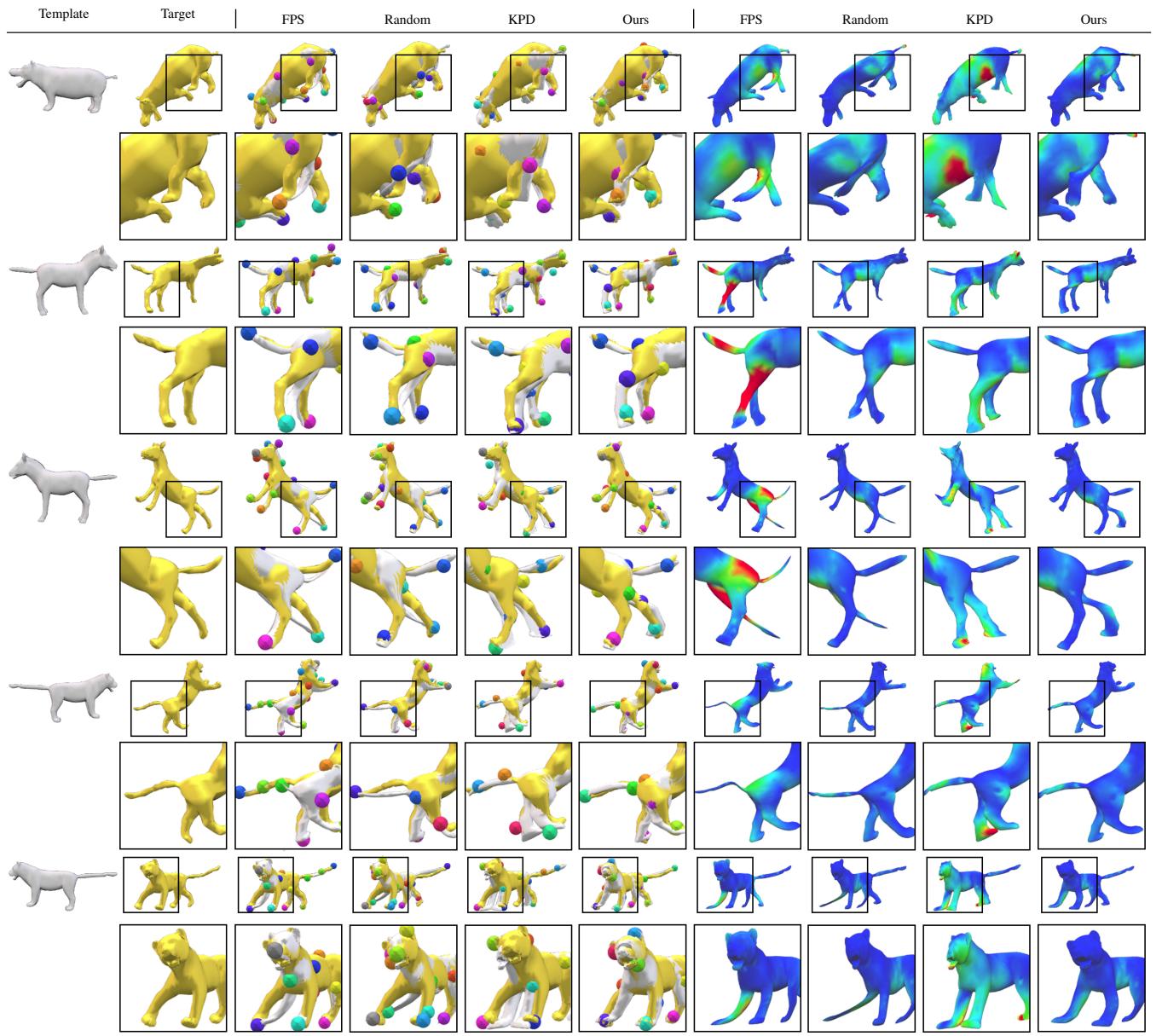
References

S.1. Additional Qualitative Results of SMPL [LMR^{*}15] and SMAL [ZKJB17] with 16 Control Points

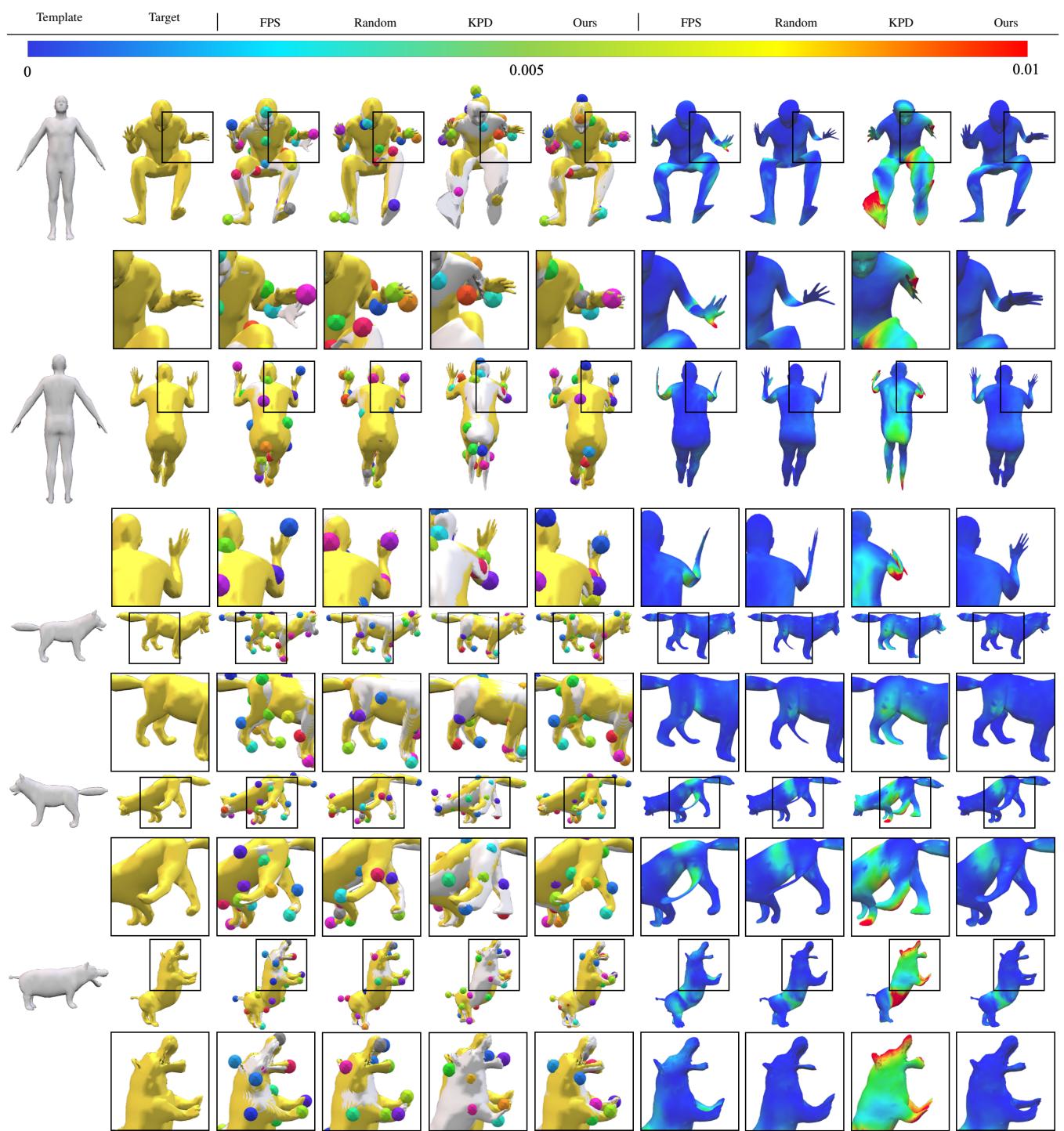
The figure displays a grid of 3D model visualizations, organized into rows and columns. The rows represent different subjects: a human figure, a dog, a bear, another dog, and a hippo. The columns represent different methods or stages of processing:

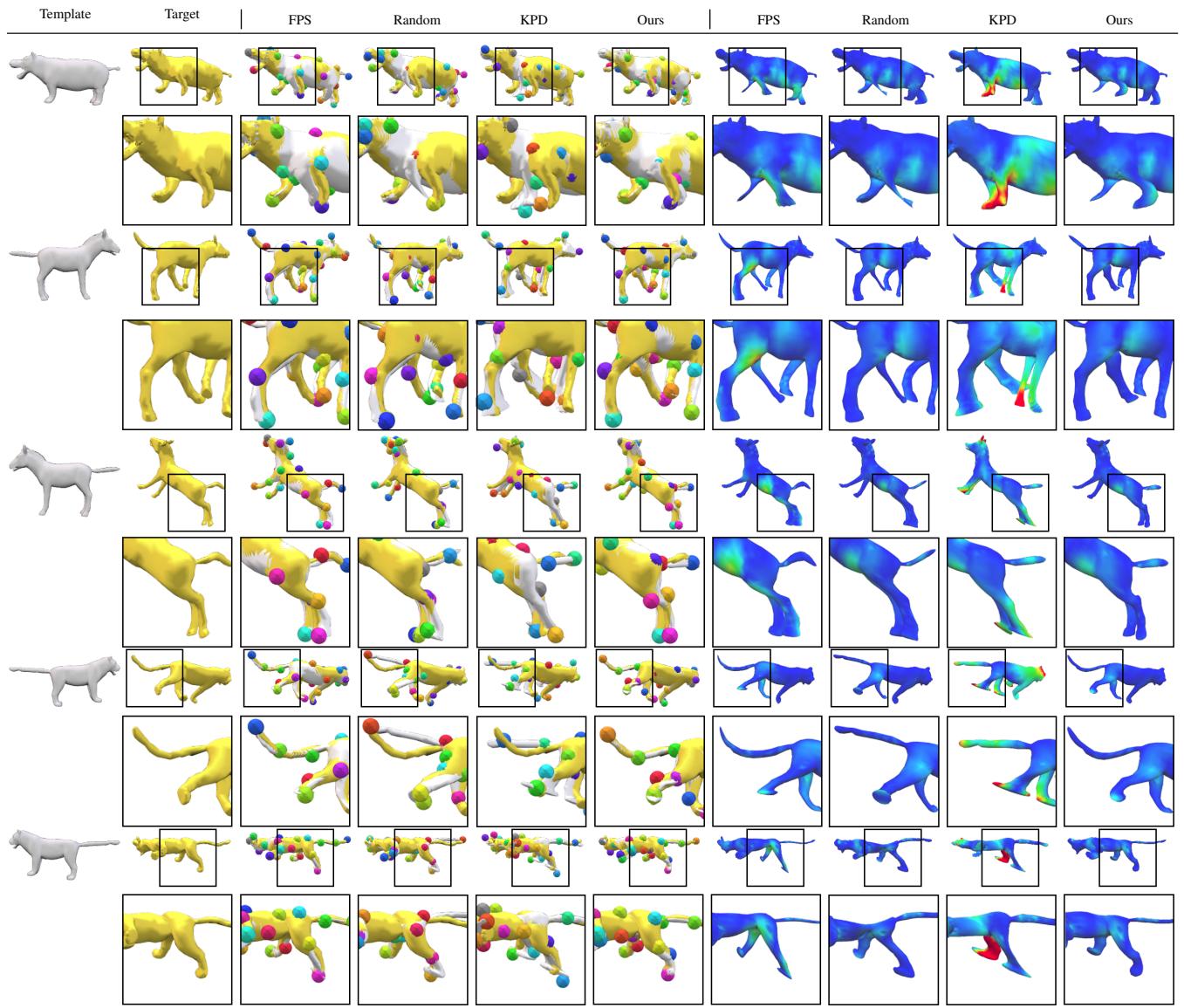
- Template:** A white 3D human template.
- Target:** A yellow 3D human target.
- FPS:** A yellow 3D model with green and red spheres attached to joints.
- Random:** A yellow 3D model with randomly colored spheres.
- KPD:** A yellow 3D model with spheres colored by a feature map.
- Ours:** A yellow 3D model with spheres colored by a feature map, showing improved alignment.
- FPS:** A blue 3D model with spheres colored by a feature map.
- Random:** A blue 3D model with spheres colored by a feature map.
- KPD:** A blue 3D model with spheres colored by a feature map.
- Ours:** A blue 3D model with spheres colored by a feature map, showing improved alignment.

A color bar at the top indicates values from 0 (blue) to 0.01 (red). Each row shows a zoomed-in view of the lower leg and foot area, highlighting the alignment of the spheres between the target and the generated models.

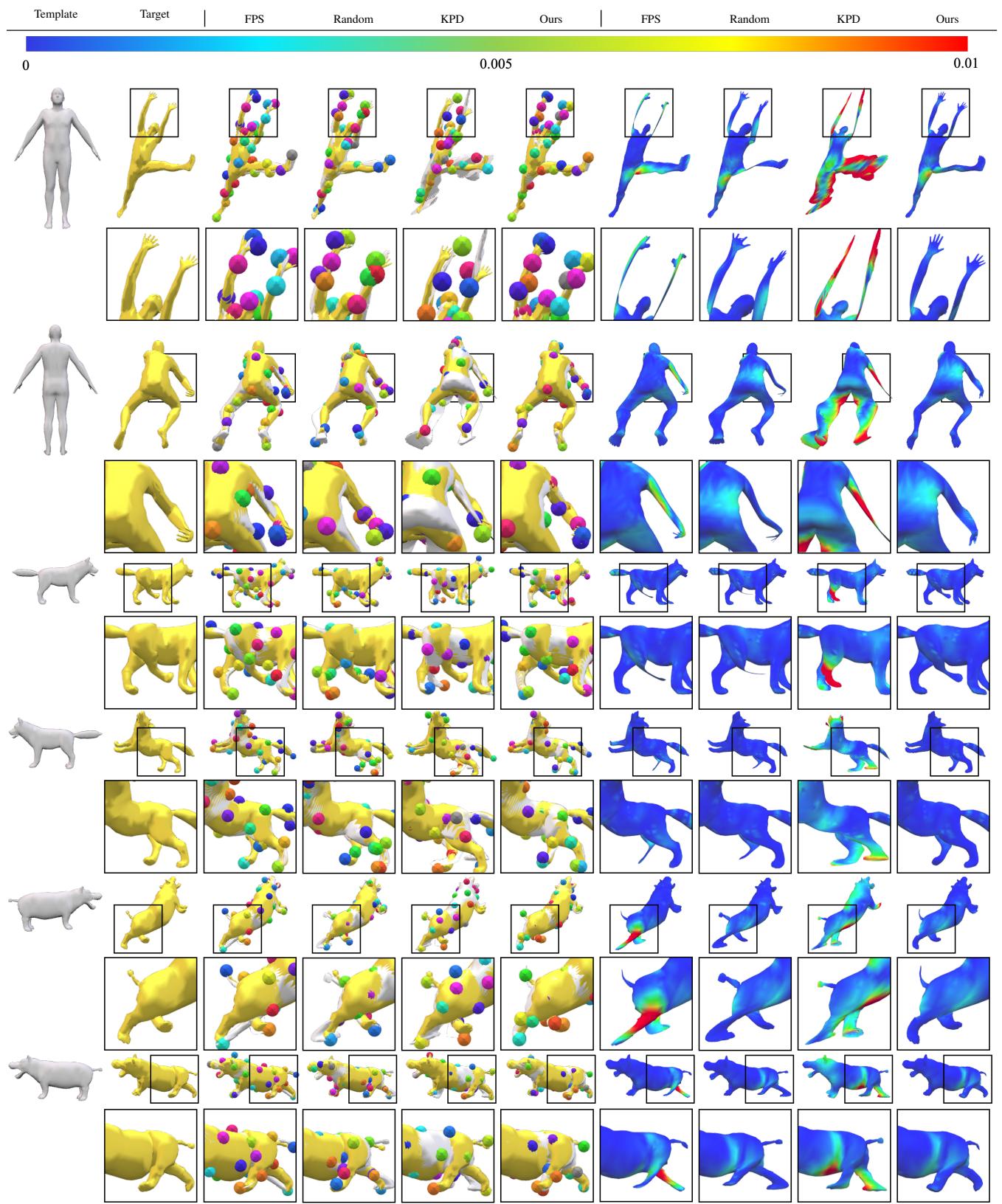


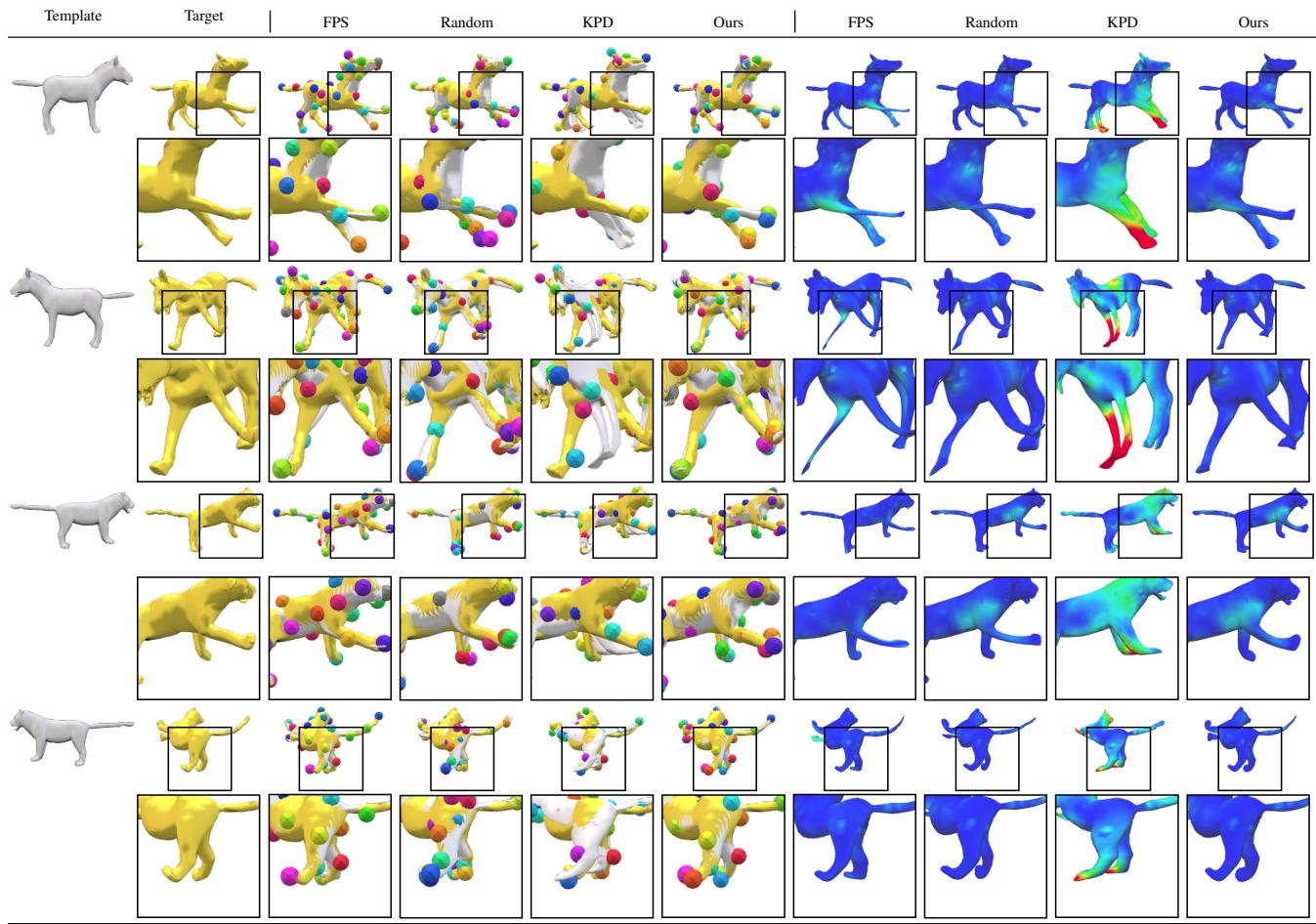
S.2. Additional Qualitative Results of SMPL [LMR^{*}15] and SMAL [ZKJB17] with 24 Control Points



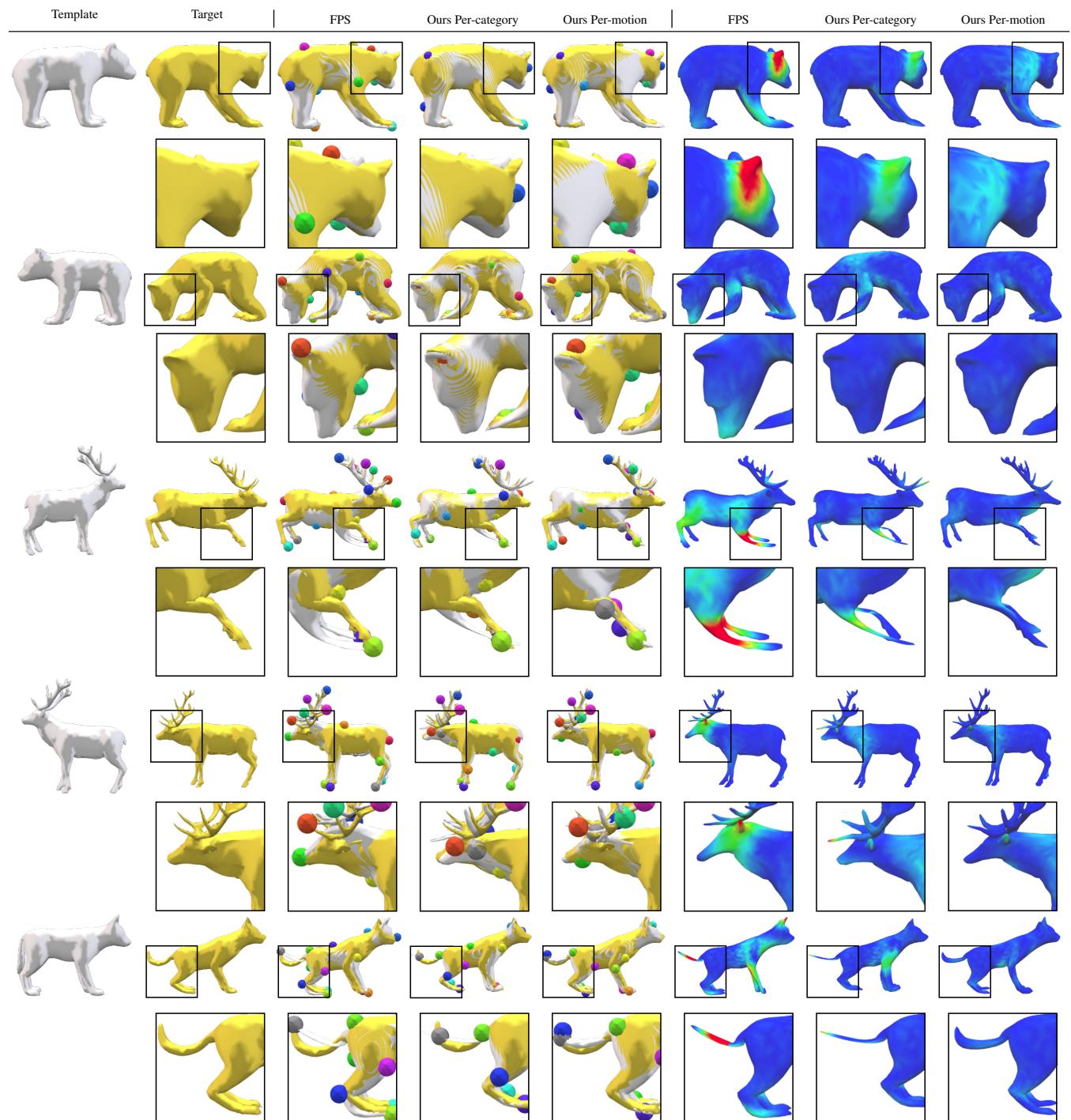


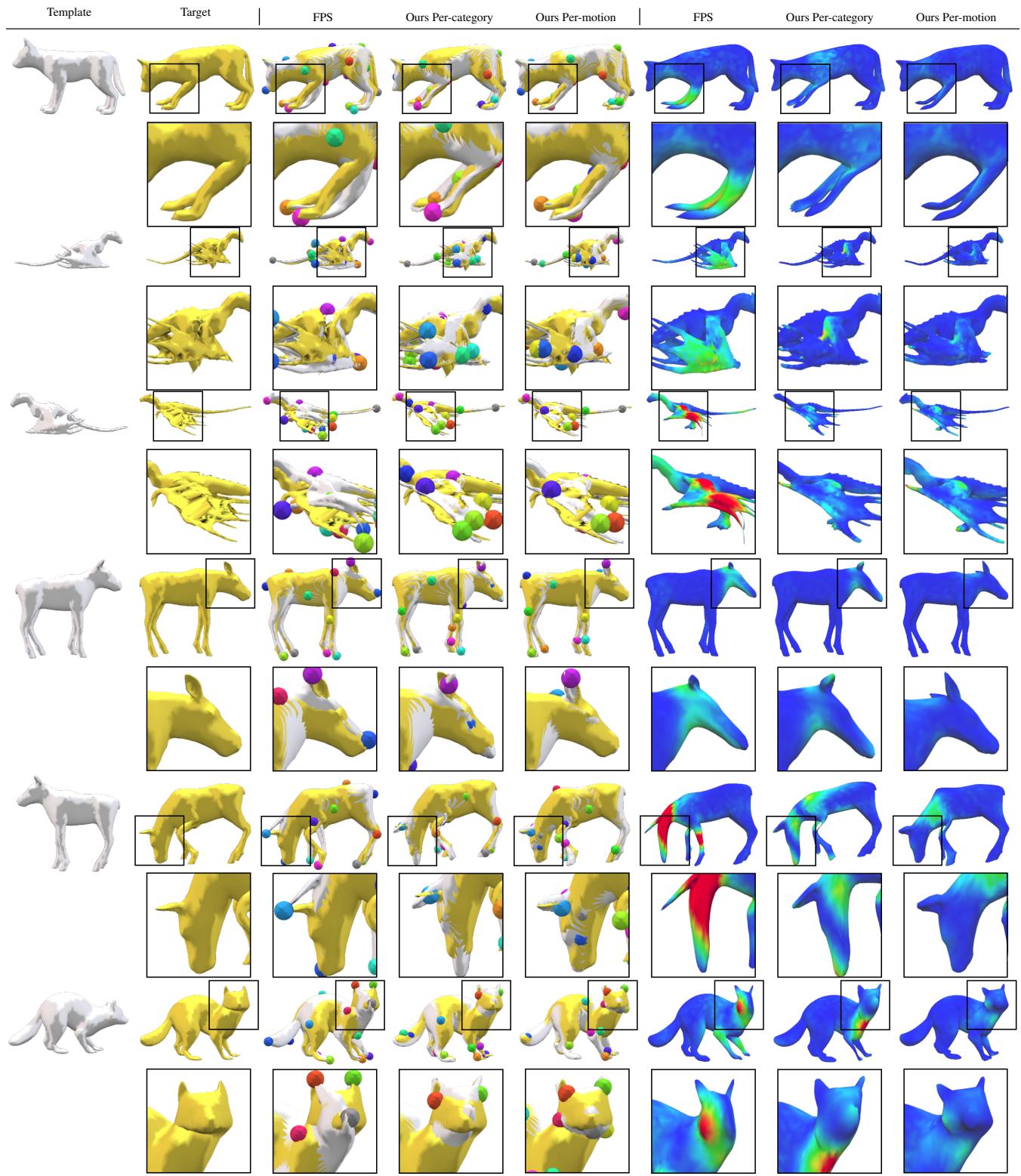
S.3. Additional Qualitative Results of SMPL [LMR^{*}15] and SMAL [ZKJB17] with 32 Control Points

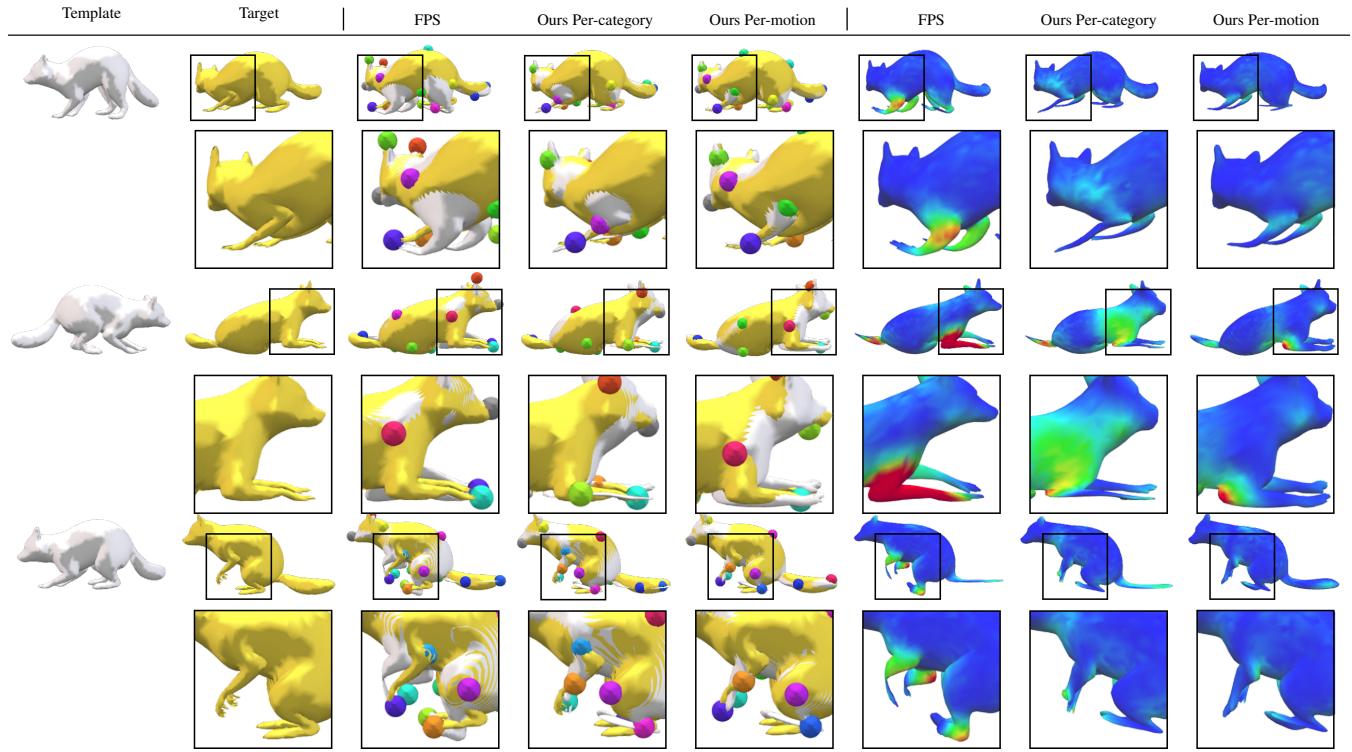




S.4. Additional Qualitative Results with DeformingThings4D [LTT^{*}21] with 16 Control Points







References

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- [LTT*21] LI Y., TAKEHARA H., TAKETOMI T., ZHENG B., NIESSNER M.: 4DComplete: Non-rigid motion estimation beyond the observable surface. In *ICCV* (2021). [1](#), [8](#)
- [ZKJB17] ZUFFI S., KANAZAWA A., JACOBS D., BLACK M. J.: 3D Menagerie: Modeling the 3D shape and pose of animals. In *CVPR* (2017). [1](#), [2](#), [4](#), [6](#)