

7. Appendix I: parametrizations used in the examples.

The rational parametrizations used in Subsection 5.2 are the following:

- S_1 :

$$\mathbf{x}(t, s) = (-s^3 + 3t^2s + 3s, 3s^2t - t^3 + 3t, 3s^2 - 3t^2)$$

- S_2 :

$$\mathbf{x}(t, s) = \left(\frac{(s-1)(ts+t-1)}{-t+t^2+s-s^2}, \frac{-t^2s+t+s-1}{-t+t^2+s-s^2}, \frac{t(1-t-s^2)}{-t+t^2+s-s^2} \right)$$

- S_3 :

$$\mathbf{x}(t, s) = (st, s^2(t-1), s^3(t+1))$$

- S_4 :

$$\mathbf{x}(t, s) = \left(t + s^3 + t^3 + 1, \frac{2st + s + s^3 + t^3 + 1}{s}, \frac{3t^2 - t + s^3 + t^3 + 1}{t} \right)$$

- S_6 :

$$\mathbf{x}(t, s) = \left(t^3 + \frac{s}{t^2+1}, \frac{t+s}{1+s}, t^5 + s \right)$$

- S_7 :

$$\mathbf{x}(t, s) = (t^3 - s, ts^3, s^4 + t^3)$$

- S_8 :

$$\mathbf{x}(t, s) = (t, s^2, t^5 + s)$$

- S_9 :

$$\mathbf{x}(t, s) = \left(\frac{s}{t^2}, \frac{s^3 + t^2}{s+t}, t^3 \right)$$

- S_{10} :

$$\mathbf{x}(t, s) = \left(\frac{t^4 + 2s^3 - st^2 - 2st}{-2s^4 + 2s^3 + t^3 + s^2}, \frac{-2s^4 + 2s^2t^2 - 2t^4 + st^2 - t}{-2s^4 + 2s^3 + t^3 + s^2}, \frac{-s^3t + st^3 + 2t^3 + 2s}{-2s^4 + 2s^3 + t^3 + s^2} \right)$$

- S_{11} :

$$\mathbf{x}(t, s) = (t^3s^3, t^2s^4, s^5)$$

- S_{13} :

$$\mathbf{x}(t, s) = \left(\frac{t(s^2 - t^2 - s)}{q(t)}, \frac{s(-2t^3 + 2st - 2t^2 + s - 1)}{q(t)}, \frac{s(-2s^3 - 2s^2t - t^2 + 1)}{q(t)} \right),$$

where $q(t) = -73s^4 + 97s^2t^2 - 62s^3 - 56s^2 + 87t$.

- S_{14} :

$$\mathbf{x}(t, s) = \left(\frac{t(-s^2t + 2st^2 + t^2 + 2s - t)}{q(t)}, \frac{s(s^3t + 2st^3 - 2s^3 + 2st^2)}{q(t)}, \frac{s(-2s^3t - 2s^2t^2 - st)}{q(t)} \right),$$

where $q(t) = -10s^4 - 83s^2t^2 - 4st^3 - 73s^2 + 97t^2 - 62t$.

- S_{15} :

$$\mathbf{x}(t, s) = (t, t^2(s^2 + 1), s^2 + s + 1).$$

- S_{17} :

$$\mathbf{x}(t, s) = (t^8, s^8, -10s^4 - 83s^2t^2 - 4st^3 - 73s^2 + 97t^2 - 62t)$$

- S_{18} :

$$\mathbf{x}(t, s) = (t^{10}, s^{10}, -10s^4 - 83s^2t^2 - 4st^3 - 73s^2 + 97t^2 - 62t)$$

- S_{19} :

$$\mathbf{x}(t, s) = (t^9, s^9, -10s^4 - 83s^2t^2 - 4st^3 - 73s^2 + 97t^2 - 62t)$$

- S_{20} :

$$\mathbf{x}(t, s) = (t^7, s^7, -82s^7 + 62s^5t^2 - 10s^3t^4 - 83t^7 - 4s^2 - 73st)$$

- S_{21} :

$$\mathbf{x}(t, s) = (t^{12}, s^{12}, -82s^2t^9 + 62s^3t^7 - 10s^8 - 83s^7t - 4st^7 - 73s^2)$$

- S_{22} :

$$\mathbf{x}(t, s) = (t^{13}, s^{13}, -82s^7 + 62s^5t^2 - 10s^3t^4 - 83t^7 - 4s^2 - 73st)$$