

Self-influence and influence pseudotensors of d-dimensional spheres

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Self-influence and influence pseudotensors of d -dimensional spheres

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December 30, 2013

This document is a companion to Ref. [1]. It gathers analytical expressions for the self-influence and influence pseudotensors of d -dimensional spheres ($d = 2, 3$).

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1 How to read this document?

Fourth-rank pseudotensors T_{ijkl} are represented in tabular form as follows

Two-dimensional space ($d = 2$)

$$\begin{pmatrix} T_{1111} & T_{1122} & T_{1112} \\ T_{2211} & T_{2222} & T_{2212} \\ T_{1211} & T_{1222} & T_{1212} \end{pmatrix}$$

Three-dimensional space ($d = 3$)

$$\begin{pmatrix} T_{1111} & T_{1122} & T_{1133} & T_{1123} & T_{1131} & T_{1112} \\ T_{2211} & T_{2222} & T_{2233} & T_{2223} & T_{2231} & T_{2212} \\ T_{3311} & T_{3322} & T_{3333} & T_{3323} & T_{3331} & T_{3312} \\ T_{2311} & T_{2322} & T_{2333} & T_{2323} & T_{2331} & T_{2312} \\ T_{3111} & T_{3122} & T_{3133} & T_{3123} & T_{3131} & T_{3112} \\ T_{1211} & T_{1222} & T_{1233} & T_{1223} & T_{1231} & T_{1212} \end{pmatrix}$$

It should be noted that the above representations should be understood as arrays, not *matrices*. Indeed, none of the components have been premultiplied by 2 (resp. $\sqrt{2}$), as required by the Voigt (resp. Mandel) notation, which precludes performing linear algebra operations (such as matrix-vector products) on these tables.

This document follows closely the notations of Ref. [1]. In addition, a_α and a_β denote the radiuses of the spherical inclusions α and β , respectively. It is recalled that r is the center-to-center distance of the two inclusions. Also, μ_0 (resp.

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ν_0) denotes the shear modulus (resp. Poisson ratio) of the reference material. For $d = 2$, plane strain elasticity is assumed; plane stress elasticity is retrieved with the classical substitution $\nu_0 \leftrightarrow \nu_0 (1 + \nu_0)^{-1}$ (leaving μ_0 unchanged).

Expressions of the self-influence pseudotensors $\mathbf{S}_\alpha^{k,l}$ and influence pseudotensors $\mathbf{T}_{\alpha\beta}^{k,l}(\mathbf{r})$ are given for $k_+ = k_1 + \dots + k_d \leq p$ and $l_+ = l_1 + \dots + l_d \leq p$, with $p = 3$ ($d = 2$) and $p = 2$ ($d = 3$); pseudotensors which are omitted below are identically null. In addition, it is assumed that $\mathbf{r} = r\mathbf{e}_d$ for the influence pseudotensors; in other words, the influence pseudotensors are expressed in a local basis attached to the two inclusions under consideration. Such pseudotensors are called *elementary*. In the general case of an arbitrarily oriented center-to-center vector, a change of basis must be performed according to Ref. [1] to retrieve the influence pseudotensors from the elementary influence pseudotensors provided in the present document.

2 Self-influence pseudotensors of d -dimensional spheres

2.1 Self-influence pseudotensors of disks ($d = 2$)

$$\begin{aligned} \mathbf{S}_\alpha^{0000} &= \frac{\pi a_\alpha^2}{16\mu_0(1-\nu_0)} \begin{pmatrix} 5-8\nu_0 & -1 & 0 \\ -1 & 5-8\nu_0 & 0 \\ 0 & 0 & 3-4\nu_0 \end{pmatrix} \\ \mathbf{S}_\alpha^{0002} &= \frac{\pi a_\alpha^4}{64\mu_0(1-\nu_0)} \begin{pmatrix} 5-8\nu_0 & -1 & 0 \\ -1 & 5-8\nu_0 & 0 \\ 0 & 0 & 3-4\nu_0 \end{pmatrix} \\ \mathbf{S}_\alpha^{0020} &= \frac{\pi a_\alpha^4}{64\mu_0(1-\nu_0)} \begin{pmatrix} 5-8\nu_0 & -1 & 0 \\ -1 & 5-8\nu_0 & 0 \\ 0 & 0 & 3-4\nu_0 \end{pmatrix} \\ \mathbf{S}_\alpha^{0101} &= \frac{\pi a_\alpha^4}{64\mu_0(1-\nu_0)} \begin{pmatrix} 3-4\nu_0 & -1 & 0 \\ -1 & 7-12\nu_0 & 0 \\ 0 & 0 & 3-4\nu_0 \end{pmatrix} \\ \mathbf{S}_\alpha^{0110} &= \frac{\pi a_\alpha^4(1-2\nu_0)}{64\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & 1 \\ 1 & 1 & 0 \end{pmatrix} \\ \mathbf{S}_\alpha^{0200} &= \frac{\pi a_\alpha^4}{64\mu_0(1-\nu_0)} \begin{pmatrix} 5-8\nu_0 & -1 & 0 \\ -1 & 5-8\nu_0 & 0 \\ 0 & 0 & 3-4\nu_0 \end{pmatrix} \\ \mathbf{S}_\alpha^{0202} &= \frac{\pi a_\alpha^6}{768\mu_0(1-\nu_0)} \begin{pmatrix} 21-32\nu_0 & -5 & 0 \\ -5 & 37-64\nu_0 & 0 \\ 0 & 0 & 19-24\nu_0 \end{pmatrix} \\ \mathbf{S}_\alpha^{0211} &= \frac{\pi a_\alpha^6}{768\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 3-4\nu_0 \\ 0 & 0 & 1-4\nu_0 \\ 3-4\nu_0 & 1-4\nu_0 & 0 \end{pmatrix} \\ \mathbf{S}_\alpha^{0220} &= \frac{\pi a_\alpha^6}{768\mu_0(1-\nu_0)} \begin{pmatrix} 11-16\nu_0 & -3 & 0 \\ -3 & 11-16\nu_0 & 0 \\ 0 & 0 & 5-8\nu_0 \end{pmatrix} \\ \mathbf{S}_\alpha^{1001} &= \frac{\pi a_\alpha^4(1-2\nu_0)}{64\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & 1 \\ 1 & 1 & 0 \end{pmatrix} \\ \mathbf{S}_\alpha^{1010} &= \frac{\pi a_\alpha^4}{64\mu_0(1-\nu_0)} \begin{pmatrix} 7-12\nu_0 & -1 & 0 \\ -1 & 3-4\nu_0 & 0 \\ 0 & 0 & 3-4\nu_0 \end{pmatrix} \\ \mathbf{S}_\alpha^{1102} &= \frac{\pi a_\alpha^6}{768\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 3-4\nu_0 \\ 0 & 0 & 1-4\nu_0 \\ 3-4\nu_0 & 1-4\nu_0 & 0 \end{pmatrix} \end{aligned}$$

$$\begin{aligned}
\mathbf{S}_\alpha^{1111} &= \frac{\pi a_\alpha^6}{768 \mu_0 (1 - \nu_0)} \begin{pmatrix} 11 - 16 \nu_0 & -3 & 0 \\ -3 & 11 - 16 \nu_0 & 0 \\ 0 & 0 & 5 - 8 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{1120} &= \frac{\pi a_\alpha^6}{768 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 1 - 4 \nu_0 \\ 0 & 0 & 3 - 4 \nu_0 \\ 1 - 4 \nu_0 & 3 - 4 \nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{2000} &= \frac{\pi a_\alpha^4}{64 \mu_0 (1 - \nu_0)} \begin{pmatrix} 5 - 8 \nu_0 & -1 & 0 \\ -1 & 5 - 8 \nu_0 & 0 \\ 0 & 0 & 3 - 4 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{2002} &= \frac{\pi a_\alpha^6}{768 \mu_0 (1 - \nu_0)} \begin{pmatrix} 11 - 16 \nu_0 & -3 & 0 \\ -3 & 11 - 16 \nu_0 & 0 \\ 0 & 0 & 5 - 8 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{2011} &= \frac{\pi a_\alpha^6}{768 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 1 - 4 \nu_0 \\ 0 & 0 & 3 - 4 \nu_0 \\ 1 - 4 \nu_0 & 3 - 4 \nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{2020} &= \frac{\pi a_\alpha^6}{768 \mu_0 (1 - \nu_0)} \begin{pmatrix} 37 - 64 \nu_0 & -5 & 0 \\ -5 & 21 - 32 \nu_0 & 0 \\ 0 & 0 & 19 - 24 \nu_0 \end{pmatrix}
\end{aligned}$$

2.2 Self-influence pseudotensors of spheres ($d = 3$)

$$\begin{aligned}
\mathbf{S}_\alpha^{000000} &= \frac{2 \pi a_\alpha^3}{45 \mu_0 (1 - \nu_0)} \begin{pmatrix} 7 - 10 \nu_0 & -1 & -1 & 0 & 0 & 0 \\ -1 & 7 - 10 \nu_0 & -1 & 0 & 0 & 0 \\ -1 & -1 & 7 - 10 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 - 5 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 - 5 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4 - 5 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{000002} &= \frac{2 \pi a_\alpha^5}{225 \mu_0 (1 - \nu_0)} \begin{pmatrix} 7 - 10 \nu_0 & -1 & -1 & 0 & 0 & 0 \\ -1 & 7 - 10 \nu_0 & -1 & 0 & 0 & 0 \\ -1 & -1 & 7 - 10 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 - 5 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 - 5 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4 - 5 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{000020} &= \frac{2 \pi a_\alpha^5}{225 \mu_0 (1 - \nu_0)} \begin{pmatrix} 7 - 10 \nu_0 & -1 & -1 & 0 & 0 & 0 \\ -1 & 7 - 10 \nu_0 & -1 & 0 & 0 & 0 \\ -1 & -1 & 7 - 10 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 - 5 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 - 5 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4 - 5 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{000200} &= \frac{2 \pi a_\alpha^5}{225 \mu_0 (1 - \nu_0)} \begin{pmatrix} 7 - 10 \nu_0 & -1 & -1 & 0 & 0 & 0 \\ -1 & 7 - 10 \nu_0 & -1 & 0 & 0 & 0 \\ -1 & -1 & 7 - 10 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 - 5 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 - 5 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4 - 5 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{001001} &= \frac{2 \pi a_\alpha^5}{525 \mu_0 (1 - \nu_0)} \begin{pmatrix} 11 - 14 \nu_0 & -1 & -3 & 0 & 0 & 0 \\ -1 & 11 - 14 \nu_0 & -3 & 0 & 0 & 0 \\ -3 & -3 & 27 - 42 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 11 - 14 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 11 - 14 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 6 - 7 \nu_0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{S}_\alpha^{001010} &= \frac{\pi a_\alpha^5}{525 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 8 - 14 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 8 - 14 \nu_0 & 0 & 0 \\ -2 & 8 - 14 \nu_0 & 8 - 14 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 7 \nu_0 \\ 0 & 0 & 0 & 0 & 5 - 7 \nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{001100} &= \frac{\pi a_\alpha^5}{525 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 8 - 14 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 8 - 14 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 7 \nu_0 \\ 8 - 14 \nu_0 & -2 & 8 - 14 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5 - 7 \nu_0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{002000} &= \frac{2 \pi a_\alpha^5}{225 \mu_0 (1 - \nu_0)} \begin{pmatrix} 7 - 10 \nu_0 & -1 & -1 & 0 & 0 & 0 \\ -1 & 7 - 10 \nu_0 & -1 & 0 & 0 & 0 \\ -1 & -1 & 7 - 10 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 - 5 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 - 5 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4 - 5 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{002002} &= \frac{2 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 107 - 146 \nu_0 & -13 & -21 & 0 & 0 & 0 & 0 \\ -13 & 107 - 146 \nu_0 & -21 & 0 & 0 & 0 & 0 \\ -21 & -21 & 211 - 338 \nu_0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 100 - 121 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 100 - 121 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 100 - 121 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 60 - 73 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{002011} &= \frac{4 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 9 - 12 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 4 - 12 \nu_0 & 0 & 0 \\ -1 & 9 - 12 \nu_0 & 4 - 12 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 6 \nu_0 \\ 0 & 0 & 0 & 0 & 5 - 6 \nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{002020} &= \frac{2 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 57 - 86 \nu_0 & -7 & -7 & 0 & 0 & 0 \\ -7 & 49 - 62 \nu_0 & -11 & 0 & 0 & 0 \\ -7 & -11 & 49 - 62 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 20 - 31 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 30 - 37 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 30 - 37 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{002101} &= \frac{4 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 9 - 12 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 12 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 6 \nu_0 \\ 9 - 12 \nu_0 & -1 & 4 - 12 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5 - 6 \nu_0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{002110} &= \frac{2 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 6 \nu_0 - 2 \\ 0 & 0 & 0 & 0 & 0 & 6 \nu_0 - 2 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & 3 \nu_0 - 5 & 0 \\ 0 & 0 & 0 & 3 \nu_0 - 5 & 0 & 0 \\ 6 \nu_0 - 2 & 6 \nu_0 - 2 & -2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{002200} &= \frac{2 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 49 - 62 \nu_0 & -7 & -11 & 0 & 0 & 0 \\ -7 & 57 - 86 \nu_0 & -7 & 0 & 0 & 0 \\ -11 & -7 & 49 - 62 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 30 - 37 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 20 - 31 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 30 - 37 \nu_0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{S}_\alpha^{010001} &= \frac{\pi a_\alpha^5}{525 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 8 - 14 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 8 - 14 \nu_0 & 0 & 0 \\ -2 & 8 - 14 \nu_0 & 8 - 14 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 7 \nu_0 \\ 0 & 0 & 0 & 0 & 5 - 7 \nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{010010} &= \frac{2 \pi a_\alpha^5}{525 \mu_0 (1 - \nu_0)} \begin{pmatrix} 11 - 14 \nu_0 & -3 & -1 & 0 & 0 & 0 \\ -3 & 27 - 42 \nu_0 & -3 & 0 & 0 & 0 \\ -1 & -3 & 11 - 14 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 11 - 14 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6 - 7 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 11 - 14 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{010100} &= \frac{\pi a_\alpha^5}{525 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 8 - 14 \nu_0 \\ 0 & 0 & 0 & 0 & 0 & 8 - 14 \nu_0 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & 5 - 7 \nu_0 & 0 \\ 0 & 0 & 0 & 5 - 7 \nu_0 & 0 & 0 \\ 8 - 14 \nu_0 & 8 - 14 \nu_0 & -2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{011002} &= \frac{4 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 9 - 12 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 4 - 12 \nu_0 & 0 & 0 \\ -1 & 9 - 12 \nu_0 & 4 - 12 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 6 \nu_0 \\ 0 & 0 & 0 & 0 & 5 - 6 \nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{011011} &= \frac{2 \pi a_\alpha^7}{2205 \mu_0 (1 - \nu_0)} \begin{pmatrix} 5 - 6 \nu_0 & -1 & -1 & 0 & 0 & 0 \\ -1 & 13 - 18 \nu_0 & -3 & 0 & 0 & 0 \\ -1 & -3 & 13 - 18 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6 - 9 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 5 - 6 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 6 \nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{011020} &= \frac{4 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 12 \nu_0 & 0 & 0 \\ 0 & 0 & 0 & 9 - 12 \nu_0 & 0 & 0 \\ -1 & 4 - 12 \nu_0 & 9 - 12 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 6 \nu_0 \\ 0 & 0 & 0 & 0 & 5 - 6 \nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{011101} &= \frac{\pi a_\alpha^7}{2205 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 4 - 6 \nu_0 \\ 0 & 0 & 0 & 0 & 0 & 4 - 6 \nu_0 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & 1 - 3 \nu_0 & 0 \\ 0 & 0 & 0 & 1 - 3 \nu_0 & 0 & 0 \\ 4 - 6 \nu_0 & 4 - 6 \nu_0 & -2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{011110} &= \frac{\pi a_\alpha^7}{2205 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 4 - 6 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 4 - 6 \nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 3 \nu_0 \\ 4 - 6 \nu_0 & -2 & 4 - 6 \nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 - 3 \nu_0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{011200} &= \frac{2 \pi a_\alpha^7}{11025 \mu_0 (1 - \nu_0)} \begin{pmatrix} 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 6 \nu_0 - 2 & 0 & 0 \\ 0 & 0 & 0 & 6 \nu_0 - 2 & 0 & 0 \\ -2 & 6 \nu_0 - 2 & 6 \nu_0 - 2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3 \nu_0 - 5 \\ 0 & 0 & 0 & 0 & 3 \nu_0 - 5 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{S}_\alpha^{020000} &= \frac{2\pi a_\alpha^5}{225\mu_0(1-\nu_0)} \begin{pmatrix} 7-10\nu_0 & -1 & -1 & 0 & 0 & 0 \\ -1 & 7-10\nu_0 & -1 & 0 & 0 & 0 \\ -1 & -1 & 7-10\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4-5\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4-5\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4-5\nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{020002} &= \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 57-86\nu_0 & -7 & -7 & 0 & 0 & 0 \\ -7 & 49-62\nu_0 & -11 & 0 & 0 & 0 \\ -7 & -11 & 49-62\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 20-31\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 30-37\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 30-37\nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{020011} &= \frac{4\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 4-12\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 9-12\nu_0 & 0 & 0 \\ -1 & 4-12\nu_0 & 9-12\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5-6\nu_0 \\ 0 & 0 & 0 & 0 & 5-6\nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{020020} &= \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 107-146\nu_0 & -21 & -13 & 0 & 0 & 0 \\ -21 & 211-338\nu_0 & -21 & 0 & 0 & 0 \\ -13 & -21 & 107-146\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 100-121\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 60-73\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 100-121\nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{020101} &= \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 6\nu_0-2 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 6\nu_0-2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0-5 \\ 6\nu_0-2 & -2 & 6\nu_0-2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0-5 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{020110} &= \frac{4\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 9-12\nu_0 \\ 0 & 0 & 0 & 0 & 0 & 4-12\nu_0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 5-6\nu_0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \\ 9-12\nu_0 & 4-12\nu_0 & -1 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{020200} &= \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 49-62\nu_0 & -11 & -7 & 0 & 0 & 0 \\ -11 & 49-62\nu_0 & -7 & 0 & 0 & 0 \\ -7 & -7 & 57-86\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 30-37\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 30-37\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 20-31\nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{100001} &= \frac{\pi a_\alpha^5}{525\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 8-14\nu_0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 8-14\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5-7\nu_0 \\ 8-14\nu_0 & -2 & 8-14\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5-7\nu_0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{100010} &= \frac{\pi a_\alpha^5}{525\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 8-14\nu_0 \\ 0 & 0 & 0 & 0 & 0 & 8-14\nu_0 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & 5-7\nu_0 & 0 \\ 0 & 0 & 0 & 5-7\nu_0 & 0 & 0 \\ 8-14\nu_0 & 8-14\nu_0 & -2 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\mathbf{S}_\alpha^{100100} = \frac{2\pi a_\alpha^5}{525\mu_0(1-\nu_0)} \begin{pmatrix} 27-42\nu_0 & -3 & -3 & 0 & 0 & 0 \\ -3 & 11-14\nu_0 & -1 & 0 & 0 & 0 \\ -3 & -1 & 11-14\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6-7\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 11-14\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 11-14\nu_0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{101002} = \frac{4\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 9-12\nu_0 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4-12\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5-6\nu_0 \\ 9-12\nu_0 & -1 & 4-12\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{101011} = \frac{\pi a_\alpha^7}{2205\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 4-6\nu_0 \\ 0 & 0 & 0 & 0 & 0 & 4-6\nu_0 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & 1-3\nu_0 & 0 \\ 0 & 0 & 0 & 1-3\nu_0 & 0 & 0 \\ 4-6\nu_0 & 4-6\nu_0 & -2 & 0 & 0 & 0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{101020} = \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 6\nu_0-2 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 6\nu_0-2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0-5 \\ 6\nu_0-2 & -2 & 6\nu_0-2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0-5 & 0 & 0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{101101} = \frac{2\pi a_\alpha^7}{2205\mu_0(1-\nu_0)} \begin{pmatrix} 13-18\nu_0 & -1 & -3 & 0 & 0 & 0 \\ -1 & 5-6\nu_0 & -1 & 0 & 0 & 0 \\ -3 & -1 & 13-18\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6-9\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5-6\nu_0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{101110} = \frac{\pi a_\alpha^7}{2205\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 4-6\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 4-6\nu_0 & 0 & 0 \\ -2 & 4-6\nu_0 & 4-6\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-3\nu_0 \\ 0 & 0 & 0 & 0 & 1-3\nu_0 & 0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{101200} = \frac{4\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 4-12\nu_0 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 9-12\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5-6\nu_0 \\ 4-12\nu_0 & -1 & 9-12\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{110002} = \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 6\nu_0-2 \\ 0 & 0 & 0 & 0 & 0 & 6\nu_0-2 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & 3\nu_0-5 & 0 \\ 0 & 0 & 0 & 3\nu_0-5 & 0 & 0 \\ 6\nu_0-2 & 6\nu_0-2 & -2 & 0 & 0 & 0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{110011} = \frac{\pi a_\alpha^7}{2205\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 4-6\nu_0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 4-6\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-3\nu_0 \\ 4-6\nu_0 & -2 & 4-6\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1-3\nu_0 & 0 & 0 \end{pmatrix}$$

$$\begin{aligned}
\mathbf{S}_\alpha^{110020} &= \frac{4\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 9-12\nu_0 \\ 0 & 0 & 0 & 0 & 0 & 4-12\nu_0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 5-6\nu_0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \\ 9-12\nu_0 & 4-12\nu_0 & -1 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{110101} &= \frac{\pi a_\alpha^7}{2205\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 4-6\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 4-6\nu_0 & 0 & 0 \\ -2 & 4-6\nu_0 & 4-6\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-3\nu_0 \\ 0 & 0 & 0 & 0 & 1-3\nu_0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{110110} &= \frac{2\pi a_\alpha^7}{2205\mu_0(1-\nu_0)} \begin{pmatrix} 13-18\nu_0 & -3 & -1 & 0 & 0 & 0 \\ -3 & 13-18\nu_0 & -1 & 0 & 0 & 0 \\ -1 & -1 & 5-6\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 5-6\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 6-9\nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{110200} &= \frac{4\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 4-12\nu_0 \\ 0 & 0 & 0 & 0 & 0 & 9-12\nu_0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 5-6\nu_0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \\ 4-12\nu_0 & 9-12\nu_0 & -1 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{200000} &= \frac{2\pi a_\alpha^5}{225\mu_0(1-\nu_0)} \begin{pmatrix} 7-10\nu_0 & -1 & -1 & 0 & 0 & 0 \\ -1 & 7-10\nu_0 & -1 & 0 & 0 & 0 \\ -1 & -1 & 7-10\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4-5\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4-5\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4-5\nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{200002} &= \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 49-62\nu_0 & -7 & -11 & 0 & 0 & 0 \\ -7 & 57-86\nu_0 & -7 & 0 & 0 & 0 \\ -11 & -7 & 49-62\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 30-37\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 20-31\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 30-37\nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{200011} &= \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 6\nu_0-2 & 0 & 0 \\ 0 & 0 & 0 & 6\nu_0-2 & 0 & 0 \\ -2 & 6\nu_0-2 & 6\nu_0-2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0-5 \\ 0 & 0 & 0 & 0 & 3\nu_0-5 & 0 \end{pmatrix} \\
\mathbf{S}_\alpha^{200020} &= \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 49-62\nu_0 & -11 & -7 & 0 & 0 & 0 \\ -11 & 49-62\nu_0 & -7 & 0 & 0 & 0 \\ -7 & -7 & 57-86\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 30-37\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 30-37\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 20-31\nu_0 \end{pmatrix} \\
\mathbf{S}_\alpha^{200101} &= \frac{4\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 4-12\nu_0 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 9-12\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5-6\nu_0 \\ 4-12\nu_0 & -1 & 9-12\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\mathbf{S}_\alpha^{200110} = \frac{4\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 4-12\nu_0 \\ 0 & 0 & 0 & 0 & 0 & 9-12\nu_0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 5-6\nu_0 & 0 \\ 0 & 0 & 0 & 5-6\nu_0 & 0 & 0 \\ 4-12\nu_0 & 9-12\nu_0 & -1 & 0 & 0 & 0 \end{pmatrix}$$

$$\mathbf{S}_\alpha^{200200} = \frac{2\pi a_\alpha^7}{11025\mu_0(1-\nu_0)} \begin{pmatrix} 211-338\nu_0 & -21 & -21 & 0 & 0 & 0 \\ -21 & 107-146\nu_0 & -13 & 0 & 0 & 0 \\ -21 & -13 & 107-146\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 60-73\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 100-121\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 100-121\nu_0 \end{pmatrix}$$

3 Elementary influence pseudotensors of d -dimensional spheres

3.1 Elementary influence pseudotensors of disks ($d = 2$)

$$\mathbf{T}_{\alpha\beta}^{0000} = \frac{\pi a_\alpha^2 a_\beta^2}{8\mu_0(1-\nu_0)r^2} \begin{pmatrix} 1-4\nu_0 & 1 & 0 \\ 1 & 4\nu_0-3 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$- \frac{3\pi a_\alpha^2 a_\beta^2 (a_\beta^2 + a_\alpha^2)}{16\mu_0(1-\nu_0)r^4} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{0001} = \frac{\pi a_\alpha^2 a_\beta^4}{16\mu_0(1-\nu_0)r^3} \begin{pmatrix} 4\nu_0-1 & -1 & 0 \\ -1 & 3-4\nu_0 & 0 \\ 0 & 0 & -1 \end{pmatrix}$$

$$+ \frac{\pi a_\alpha^2 a_\beta^4 (2a_\beta^2 + 3a_\alpha^2)}{16\mu_0(1-\nu_0)r^5} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{0002} = \frac{\pi a_\alpha^2 a_\beta^4}{32\mu_0(1-\nu_0)r^2} \begin{pmatrix} 1-4\nu_0 & 1 & 0 \\ 1 & 4\nu_0-3 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$- \frac{\pi a_\alpha^2 a_\beta^6 (1-2\nu_0)}{16\mu_0(1-\nu_0)r^4} \begin{pmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix}$$

$$+ \frac{3\pi a_\alpha^4 a_\beta^4}{64\mu_0(1-\nu_0)r^4} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}$$

$$- \frac{5\pi a_\alpha^2 a_\beta^6 (a_\beta^2 + 2a_\alpha^2)}{64\mu_0(1-\nu_0)r^6} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{0010} = \frac{\pi a_\alpha^2 a_\beta^4}{16\mu_0(1-\nu_0)r^3} \begin{pmatrix} 0 & 0 & 2\nu_0+1 \\ 0 & 0 & 2\nu_0-3 \\ 2\nu_0+1 & 2\nu_0-3 & 0 \end{pmatrix}$$

$$+ \frac{\pi a_\alpha^2 a_\beta^4 (2a_\beta^2 + 3a_\alpha^2)}{16\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{0011} = \frac{\pi a_\alpha^2 a_\beta^6}{32\mu_0(1-\nu_0)r^4} \begin{pmatrix} 0 & 0 & -2\nu_0-1 \\ 0 & 0 & 3-2\nu_0 \\ -2\nu_0-1 & 3-2\nu_0 & 0 \end{pmatrix}$$

$$\begin{aligned}
& - \frac{5 \pi a_\alpha^2 a_\beta^6 (a_\beta^2 + 2 a_\alpha^2)}{64 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0020} &= \frac{\pi a_\alpha^2 a_\beta^4}{32 \mu_0 (1 - \nu_0) r^2} \begin{pmatrix} 1 - 4 \nu_0 & 1 & 0 \\ 1 & 4 \nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^2 a_\beta^6}{16 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 2 \nu_0 + 1 & -2 & 0 \\ -2 & 3 - 2 \nu_0 & 0 \\ 0 & 0 & -2 \end{pmatrix} \\
& + \frac{3 \pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^2 a_\beta^6 (a_\beta^2 + 2 a_\alpha^2)}{64 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0100} &= \frac{\pi a_\alpha^4 a_\beta^2}{16 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4 \nu_0 & 1 & 0 \\ 1 & 4 \nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^4 a_\beta^2 (3 a_\beta^2 + 2 a_\alpha^2)}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0101} &= \frac{3 \pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 4 \nu_0 - 1 & -1 & 0 \\ -1 & 3 - 4 \nu_0 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^4 a_\beta^4 (a_\beta^2 + a_\alpha^2)}{32 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0102} &= \frac{\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4 \nu_0 & 1 & 0 \\ 1 & 4 \nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^4 a_\beta^6 (1 - 2 \nu_0)}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^6 a_\beta^4}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^4 a_\beta^6 (3 a_\beta^2 + 4 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0110} &= \frac{3 \pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 2 \nu_0 + 1 \\ 0 & 0 & 2 \nu_0 - 3 \\ 2 \nu_0 + 1 & 2 \nu_0 - 3 & 0 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^4 a_\beta^4 (a_\beta^2 + a_\alpha^2)}{32 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0111} &= \frac{\pi a_\alpha^4 a_\beta^6}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & -2 \nu_0 - 1 \\ 0 & 0 & 3 - 2 \nu_0 \\ -2 \nu_0 - 1 & 3 - 2 \nu_0 & 0 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^4 a_\beta^6 (3 a_\beta^2 + 4 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{0120} &= \frac{\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & 1 & 0 \\ 1 & 4\nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^4 a_\beta^6}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 2\nu_0 + 1 & -2 & 0 \\ -2 & 3 - 2\nu_0 & 0 \\ 0 & 0 & -2 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^6 a_\beta^4}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
&+ \frac{5 \pi a_\alpha^4 a_\beta^6 (3 a_\beta^2 + 4 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0200} &= \frac{\pi a_\alpha^4 a_\beta^2}{32 \mu_0 (1 - \nu_0) r^2} \begin{pmatrix} 1 - 4\nu_0 & 1 & 0 \\ 1 & 4\nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
&+ \frac{3 \pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
&- \frac{\pi a_\alpha^6 a_\beta^2 (1 - 2\nu_0)}{16 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix} \\
&- \frac{5 \pi a_\alpha^6 a_\beta^2 (2 a_\beta^2 + a_\alpha^2)}{64 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0201} &= \frac{\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 4\nu_0 - 1 & -1 & 0 \\ -1 & 3 - 4\nu_0 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^4 a_\beta^6}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^6 a_\beta^4 (1 - 2\nu_0)}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix} \\
&+ \frac{5 \pi a_\alpha^6 a_\beta^4 (4 a_\beta^2 + 3 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0202} &= \frac{\pi a_\alpha^4 a_\beta^4}{128 \mu_0 (1 - \nu_0) r^2} \begin{pmatrix} 1 - 4\nu_0 & 1 & 0 \\ 1 & 4\nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
&- \frac{\pi a_\alpha^4 a_\beta^4 (a_\beta^2 + a_\alpha^2) (1 - 2\nu_0)}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix} \\
&+ \frac{5 \pi a_\alpha^4 a_\beta^8}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
&+ \frac{5 \pi a_\alpha^6 a_\beta^6}{192 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 3 - 4\nu_0 & -1 & 0 \\ -1 & 4\nu_0 - 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
&+ \frac{5 \pi a_\alpha^8 a_\beta^4}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{35 \pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0210} &= \frac{\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 2\nu_0 - 3 \\ 2\nu_0 + 1 & 2\nu_0 - 3 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^4 a_\beta^6}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^6 a_\beta^4}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & -\nu_0 \\ 0 & 0 & 1 - \nu_0 \\ -\nu_0 & 1 - \nu_0 & 0 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^6 a_\beta^4 (4 a_\beta^2 + 3 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0211} &= \frac{\pi a_\alpha^4 a_\beta^6}{128 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & -2\nu_0 - 1 \\ 0 & 0 & 3 - 2\nu_0 \\ -2\nu_0 - 1 & 3 - 2\nu_0 & 0 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^4 a_\beta^8}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^6 a_\beta^6}{96 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & \nu_0 \\ 0 & 0 & \nu_0 - 1 \\ \nu_0 & \nu_0 - 1 & 0 \end{pmatrix} \\
& - \frac{35 \pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{0220} &= \frac{\pi a_\alpha^4 a_\beta^4}{128 \mu_0 (1 - \nu_0) r^2} \begin{pmatrix} 1 - 4\nu_0 & 1 & 0 \\ 1 & 4\nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^4 a_\beta^6}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 2\nu_0 + 1 & -2 & 0 \\ -2 & 3 - 2\nu_0 & 0 \\ 0 & 0 & -2 \end{pmatrix} \\
& - \frac{\pi a_\alpha^6 a_\beta^4 (1 - 2\nu_0)}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^4 a_\beta^8}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^6 a_\beta^6}{192 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 4\nu_0 + 1 & -3 & 0 \\ -3 & 5 - 4\nu_0 & 0 \\ 0 & 0 & -3 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^8 a_\beta^4}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
& - \frac{35 \pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{1000} &= \frac{\pi a_\alpha^4 a_\beta^2}{16 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 0 & 0 & -2\nu_0 - 1 \\ 0 & 0 & 3 - 2\nu_0 \\ -2\nu_0 - 1 & 3 - 2\nu_0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{\pi a_\alpha^4 a_\beta^2 (3 a_\beta^2 + 2 a_\alpha^2)}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{1001} &= \frac{3 \pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 2 \nu_0 + 1 \\ 0 & 0 & 2 \nu_0 - 3 \\ 2 \nu_0 + 1 & 2 \nu_0 - 3 & 0 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^4 a_\beta^4 (a_\beta^2 + a_\alpha^2)}{32 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{1002} &= \frac{\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 0 & 0 & -2 \nu_0 - 1 \\ 0 & 0 & 3 - 2 \nu_0 \\ -2 \nu_0 - 1 & 3 - 2 \nu_0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^4 a_\beta^6}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & \nu_0 \\ 0 & 0 & \nu_0 - 1 \\ \nu_0 & \nu_0 - 1 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^6 a_\beta^4}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^4 a_\beta^6 (3 a_\beta^2 + 4 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{1010} &= \frac{3 \pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} -4 \nu_0 - 1 & 3 & 0 \\ 3 & 4 \nu_0 - 5 & 0 \\ 0 & 0 & 3 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^4 a_\beta^4 (a_\beta^2 + a_\alpha^2)}{32 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{1011} &= \frac{\pi a_\alpha^4 a_\beta^6}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 4 \nu_0 + 1 & -3 & 0 \\ -3 & 5 - 4 \nu_0 & 0 \\ 0 & 0 & -3 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^4 a_\beta^6 (3 a_\beta^2 + 4 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{1020} &= \frac{\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 0 & 0 & -2 \nu_0 - 1 \\ 0 & 0 & 3 - 2 \nu_0 \\ -2 \nu_0 - 1 & 3 - 2 \nu_0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^4 a_\beta^6}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & -\nu_0 - 2 \\ 0 & 0 & 3 - \nu_0 \\ -\nu_0 - 2 & 3 - \nu_0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^6 a_\beta^4}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^4 a_\beta^6 (3 a_\beta^2 + 4 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{1100} &= \frac{\pi a_\alpha^6 a_\beta^2}{32 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & -2 \nu_0 - 1 \\ 0 & 0 & 3 - 2 \nu_0 \\ -2 \nu_0 - 1 & 3 - 2 \nu_0 & 0 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^6 a_\beta^2 (2 a_\beta^2 + a_\alpha^2)}{64 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix}
\end{aligned}$$

$$\mathbf{T}_{\alpha\beta}^{1101} = \frac{\pi a_\alpha^6 a_\beta^4}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 2\nu_0 - 3 \\ 2\nu_0 + 1 & 2\nu_0 - 3 & 0 \end{pmatrix}$$

$$+ \frac{5\pi a_\alpha^6 a_\beta^4 (4a_\beta^2 + 3a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{1102} = \frac{\pi a_\alpha^6 a_\beta^4}{128 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & -2\nu_0 - 1 \\ 0 & 0 & 3 - 2\nu_0 \\ -2\nu_0 - 1 & 3 - 2\nu_0 & 0 \end{pmatrix}$$

$$- \frac{5\pi a_\alpha^6 a_\beta^6}{96 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & \nu_0 \\ 0 & 0 & \nu_0 - 1 \\ \nu_0 & \nu_0 - 1 & 0 \end{pmatrix}$$

$$+ \frac{5\pi a_\alpha^8 a_\beta^4}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix}$$

$$- \frac{35\pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{1110} = \frac{\pi a_\alpha^6 a_\beta^4}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -4\nu_0 - 1 & 3 & 0 \\ 3 & 4\nu_0 - 5 & 0 \\ 0 & 0 & 3 \end{pmatrix}$$

$$- \frac{5\pi a_\alpha^6 a_\beta^4 (4a_\beta^2 + 3a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{1111} = \frac{5\pi a_\alpha^6 a_\beta^6}{192 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 4\nu_0 + 1 & -3 & 0 \\ -3 & 5 - 4\nu_0 & 0 \\ 0 & 0 & -3 \end{pmatrix}$$

$$- \frac{35\pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{1120} = \frac{\pi a_\alpha^6 a_\beta^4}{128 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & -2\nu_0 - 1 \\ 0 & 0 & 3 - 2\nu_0 \\ -2\nu_0 - 1 & 3 - 2\nu_0 & 0 \end{pmatrix}$$

$$- \frac{5\pi a_\alpha^6 a_\beta^6}{96 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & -\nu_0 - 2 \\ 0 & 0 & 3 - \nu_0 \\ -\nu_0 - 2 & 3 - \nu_0 & 0 \end{pmatrix}$$

$$+ \frac{5\pi a_\alpha^8 a_\beta^4}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix}$$

$$- \frac{35\pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix}$$

$$\mathbf{T}_{\alpha\beta}^{2000} = \frac{\pi a_\alpha^4 a_\beta^2}{32 \mu_0 (1 - \nu_0) r^2} \begin{pmatrix} 1 - 4\nu_0 & 1 & 0 \\ 1 & 4\nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$+ \frac{3\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}$$

$$+ \frac{\pi a_\alpha^6 a_\beta^2}{16 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 2\nu_0 + 1 & -2 & 0 \\ -2 & 3 - 2\nu_0 & 0 \\ 0 & 0 & -2 \end{pmatrix}$$

$$\begin{aligned}
& - \frac{5 \pi a_\alpha^6 a_\beta^2 (2 a_\beta^2 + a_\alpha^2)}{64 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{2001} &= \frac{\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 4 \nu_0 - 1 & -1 & 0 \\ -1 & 3 - 4 \nu_0 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^4 a_\beta^6}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^6 a_\beta^4}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -2 \nu_0 - 1 & 2 & 0 \\ 2 & 2 \nu_0 - 3 & 0 \\ 0 & 0 & 2 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^6 a_\beta^4 (4 a_\beta^2 + 3 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{2002} &= \frac{\pi a_\alpha^4 a_\beta^4}{128 \mu_0 (1 - \nu_0) r^2} \begin{pmatrix} 1 - 4 \nu_0 & 1 & 0 \\ 1 & 4 \nu_0 - 3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^4 a_\beta^6 (1 - 2 \nu_0)}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} -1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^6 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 2 \nu_0 + 1 & -2 & 0 \\ -2 & 3 - 2 \nu_0 & 0 \\ 0 & 0 & -2 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^4 a_\beta^8}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^6 a_\beta^6}{192 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 4 \nu_0 + 1 & -3 & 0 \\ -3 & 5 - 4 \nu_0 & 0 \\ 0 & 0 & -3 \end{pmatrix} \\
& + \frac{5 \pi a_\alpha^8 a_\beta^4}{256 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& - \frac{35 \pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 1 & -1 & 0 \\ -1 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{2010} &= \frac{\pi a_\alpha^4 a_\beta^4}{64 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 0 & 0 & 2 \nu_0 + 1 \\ 0 & 0 & 2 \nu_0 - 3 \\ 2 \nu_0 + 1 & 2 \nu_0 - 3 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^4 a_\beta^6}{32 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^6 a_\beta^4}{16 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & -\nu_0 - 2 \\ 0 & 0 & 3 - \nu_0 \\ -\nu_0 - 2 & 3 - \nu_0 & 0 \end{pmatrix} \\
& - \frac{5 \pi a_\alpha^6 a_\beta^4 (4 a_\beta^2 + 3 a_\alpha^2)}{128 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & -1 \\ 0 & 0 & 1 \\ -1 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{2011} &= \frac{\pi a_\alpha^4 a_\beta^6}{128 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & -2 \nu_0 - 1 \\ 0 & 0 & 3 - 2 \nu_0 \\ -2 \nu_0 - 1 & 3 - 2 \nu_0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{5\pi a_\alpha^4 a_\beta^8}{256\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix} \\
& - \frac{5\pi a_\alpha^6 a_\beta^6}{96\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & -\nu_0-2 \\ 0 & 0 & 3-\nu_0 \\ -\nu_0-2 & 3-\nu_0 & 0 \end{pmatrix} \\
& - \frac{35\pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256\mu_0(1-\nu_0)r^8} \begin{pmatrix} 0 & 0 & 1 \\ 0 & 0 & -1 \\ 1 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{2020} = & \frac{\pi a_\alpha^4 a_\beta^4}{128\mu_0(1-\nu_0)r^2} \begin{pmatrix} 1-4\nu_0 & 1 & 0 \\ 1 & 4\nu_0-3 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^4 a_\beta^4 (a_\beta^2 + a_\alpha^2)}{64\mu_0(1-\nu_0)r^4} \begin{pmatrix} -2\nu_0-1 & 2 & 0 \\ 2 & 2\nu_0-3 & 0 \\ 0 & 0 & 2 \end{pmatrix} \\
& + \frac{5\pi a_\alpha^4 a_\beta^8}{256\mu_0(1-\nu_0)r^6} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& + \frac{5\pi a_\alpha^6 a_\beta^6}{192\mu_0(1-\nu_0)r^6} \begin{pmatrix} -4\nu_0-5 & 7 & 0 \\ 7 & 4\nu_0-9 & 0 \\ 0 & 0 & 7 \end{pmatrix} \\
& + \frac{5\pi a_\alpha^8 a_\beta^4}{256\mu_0(1-\nu_0)r^6} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \\
& - \frac{35\pi a_\alpha^6 a_\beta^6 (a_\beta^2 + a_\alpha^2)}{256\mu_0(1-\nu_0)r^8} \begin{pmatrix} -1 & 1 & 0 \\ 1 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}
\end{aligned}$$

3.2 Elementary influence pseudotensors of spheres ($d = 3$)

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{000000} = & \frac{\pi a_\alpha^3 a_\beta^3}{9\mu_0(1-\nu_0)r^3} \begin{pmatrix} 1-4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1-4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0-8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0+1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0+1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-2\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^3 a_\beta^3 (a_\beta^2 + a_\alpha^2)}{15\mu_0(1-\nu_0)r^5} \begin{pmatrix} -3 & -1 & 4 & 0 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 4 & 4 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{000001} = & \frac{\pi a_\alpha^3 a_\beta^5}{15\mu_0(1-\nu_0)r^4} \begin{pmatrix} 4\nu_0-1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 4\nu_0-1 & -2 & 0 & 0 & 0 \\ -2 & -2 & 8-8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0-1 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0-1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0-1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{\pi a_\alpha^3 a_\beta^5 (5 a_\beta^2 + 7 a_\alpha^2)}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{000002} = & \frac{\pi a_\alpha^3 a_\beta^5}{45 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^3 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 16\nu_0 - 7 & 3 & -4 & 0 & 0 & 0 \\ 3 & 16\nu_0 - 7 & -4 & 0 & 0 & 0 \\ -4 & -4 & 24 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 5 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^3 a_\beta^7 (5 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{000010} = & \frac{\pi a_\alpha^3 a_\beta^5}{15 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 4 & 0 & 0 \\ 1 & 2\nu_0 + 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 0 & 0 & 0 & 0 & \nu_0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^3 a_\beta^5 (5 a_\beta^2 + 7 a_\alpha^2)}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{000011} = & \frac{4\pi a_\alpha^3 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
& - \frac{2\pi a_\alpha^3 a_\beta^7 (5 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{000020} &= \frac{\pi a_\alpha^3 a_\beta^5}{45 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^3 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 4\nu_0 + 2 & 4 & -8 & 0 & 0 & 0 \\ 4 & 12\nu_0 + 6 & -16 & 0 & 0 & 0 \\ -8 & -16 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 15 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0 - 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
&- \frac{\pi a_\alpha^3 a_\beta^7 (5 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{000100} &= \frac{\pi a_\alpha^3 a_\beta^5}{15 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 2\nu_0 + 1 & 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 & 0 & 0 \end{pmatrix} \\
&- \frac{\pi a_\alpha^3 a_\beta^5 (5 a_\beta^2 + 7 a_\alpha^2)}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{000101} &= \frac{4\pi a_\alpha^3 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
&+ \frac{2\pi a_\alpha^3 a_\beta^7 (5 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{000110} &= \frac{\pi a_\alpha^3 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^3 a_\beta^7 (5 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{000200} = & \frac{\pi a_\alpha^3 a_\beta^5}{45 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^3 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 12\nu_0 + 6 & 4 & -16 & 0 & 0 & 0 \\ 4 & 4\nu_0 + 2 & -8 & 0 & 0 & 0 \\ -16 & -8 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 15 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^3 a_\beta^7 (5 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{001000} = & \frac{\pi a_\alpha^5 a_\beta^3}{15 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^3 (7 a_\beta^2 + 5 a_\alpha^2)}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{001001} = & \frac{4\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 4\nu_0 - 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 4\nu_0 - 1 & -2 & 0 & 0 & 0 \\ -2 & -2 & 8 - 8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 - 1 \end{pmatrix} \\
& - \frac{2\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{001002} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
&\quad - \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 16\nu_0 - 7 & 3 & -4 & 0 & 0 & 0 \\ 3 & 16\nu_0 - 7 & -4 & 0 & 0 & 0 \\ -4 & -4 & 24 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 5 \end{pmatrix} \\
&\quad + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
&\quad + \frac{2\pi a_\alpha^5 a_\beta^7 (7a_\beta^2 + 9a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{001010} &= \frac{4\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 4 & 0 & 0 \\ 1 & 2\nu_0 + 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 0 & 0 & 0 & 0 & \nu_0 & 0 \end{pmatrix} \\
&\quad - \frac{2\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{001011} &= \frac{4\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
&\quad - \frac{2\pi a_\alpha^5 a_\beta^7 (7a_\beta^2 + 9a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{001020} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 4\nu_0 + 2 & 4 & -8 & 0 & 0 & 0 \\ 4 & 12\nu_0 + 6 & -16 & 0 & 0 & 0 \\ -8 & -16 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 15 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0 - 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{001100} & = \frac{4\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 2\nu_0 + 1 & 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 & 0 & 0 \end{pmatrix} \\
& - \frac{2\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{001101} & = \frac{4\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{001110} & = \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{001200} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 12\nu_0 + 6 & 4 & -16 & 0 & 0 & 0 \\ 4 & 4\nu_0 + 2 & -8 & 0 & 0 & 0 \\ -16 & -8 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 15 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
&- \frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{002000} &= \frac{\pi a_\alpha^5 a_\beta^3}{45 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
&- \frac{\pi a_\alpha^7 a_\beta^3}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 16\nu_0 - 7 & 3 & -4 & 0 & 0 & 0 \\ 3 & 16\nu_0 - 7 & -4 & 0 & 0 & 0 \\ -4 & -4 & 24 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 5 \end{pmatrix} \\
&+ \frac{2\pi a_\alpha^7 a_\beta^3 (9 a_\beta^2 + 5 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{002001} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 4\nu_0 - 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 4\nu_0 - 1 & -2 & 0 & 0 & 0 \\ -2 & -2 & 8 - 8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 - 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -3 & -1 & 4 & 0 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 4 & 4 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 7 - 16\nu_0 & -3 & 4 & 0 & 0 & 0 \\ -3 & 7 - 16\nu_0 & 4 & 0 & 0 & 0 \\ 4 & 4 & 32\nu_0 - 24 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 8\nu_0 \end{pmatrix} \\
& - \frac{2\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& \mathbf{T}_{\alpha\beta}^{002002} = \frac{\pi a_\alpha^5 a_\beta^5}{225 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 7 - 16\nu_0 & -3 & 4 & 0 & 0 & 0 \\ -3 & 7 - 16\nu_0 & 4 & 0 & 0 & 0 \\ 4 & 4 & 32\nu_0 - 24 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 - 8\nu_0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& - \frac{4\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 8\nu_0 - 5 & 1 & 0 & 0 & 0 & 0 \\ 1 & 8\nu_0 - 5 & 0 & 0 & 0 & 0 \\ 0 & 0 & 8 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 2 - 2\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 2 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 - 3 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& - \frac{16\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} -3 & -1 & 4 & 0 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 4 & 4 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{002010} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 4 & 0 & 0 \\ 1 & 2\nu_0 + 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 0 & 0 & 0 & 0 & \nu_0 & 0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & 8\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 8\nu_0 - 12 & 0 & 0 \\ 3 & 8\nu_0 + 1 & 8\nu_0 - 12 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 - 1 \\ 0 & 0 & 0 & 0 & 4\nu_0 - 1 & 0 \end{pmatrix} \\
&- \frac{2\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{002011} &= \frac{4\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
&+ \frac{2\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
&+ \frac{2\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & -8\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 12 - 8\nu_0 & 0 & 0 \\ -3 & -8\nu_0 - 1 & 12 - 8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 4\nu_0 \\ 0 & 0 & 0 & 0 & 1 - 4\nu_0 & 0 \end{pmatrix} \\
&- \frac{16\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{002020} &= \frac{\pi a_\alpha^5 a_\beta^5}{225 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 4\nu_0 + 2 & 4 & -8 & 0 & 0 & 0 \\ 4 & 12\nu_0 + 6 & -16 & 0 & 0 & 0 \\ -8 & -16 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 15 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0 - 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^5}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 16\nu_0 - 7 & 3 & -4 & 0 & 0 & 0 \\ 3 & 16\nu_0 - 7 & -4 & 0 & 0 & 0 \\ -4 & -4 & 24 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 5 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & -1 & 2 & 0 & 0 & 0 \\ -1 & -5 & 6 & 0 & 0 & 0 \\ 2 & 6 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 8\nu_0 + 3 & 7 & -14 & 0 & 0 & 0 \\ 7 & 24\nu_0 + 7 & -26 & 0 & 0 & 0 \\ -14 & -26 & 56 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 24 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6\nu_0 - 8 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 1 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{002100} = & \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 2\nu_0 + 1 & 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ -3 & -1 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 8\nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 8\nu_0 - 12 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 - 1 \\ 8\nu_0 + 1 & 3 & 8\nu_0 - 12 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4\nu_0 - 1 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{2\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315\mu_0(1-\nu_0)r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{002101} = & \frac{4\pi a_\alpha^5 a_\beta^7}{525\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^5 a_\beta^9}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & -8\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & 12 - 8\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 4\nu_0 \\ -8\nu_0 - 1 & -3 & 12 - 8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 - 4\nu_0 & 0 & 0 \end{pmatrix} \\
& - \frac{16\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ -3 & -1 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{002110} = & \frac{\pi a_\alpha^5 a_\beta^7}{525\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 4\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -6 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 8 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 8 & 0 & 0 \\ 4\nu_0 + 1 & 4\nu_0 + 1 & -6 & 0 & 0 & 0 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{002200} = & \frac{\pi a_\alpha^5 a_\beta^5}{225 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 12\nu_0 + 6 & 4 & -16 & 0 & 0 & 0 \\ 4 & 4\nu_0 + 2 & -8 & 0 & 0 & 0 \\ -16 & -8 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 15 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^5}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 16\nu_0 - 7 & 3 & -4 & 0 & 0 & 0 \\ 3 & 16\nu_0 - 7 & -4 & 0 & 0 & 0 \\ -4 & -4 & 24 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 5 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -5 & -1 & 6 & 0 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 6 & 2 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 24\nu_0 + 7 & 7 & -26 & 0 & 0 & 0 \\ 7 & 8\nu_0 + 3 & -14 & 0 & 0 & 0 \\ -26 & -14 & 56 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6\nu_0 - 8 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2\nu_0 - 24 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 1 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{010000} = & \frac{\pi a_\alpha^5 a_\beta^3}{15 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^3 (7a_\beta^2 + 5a_\alpha^2)}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{010001} &= \frac{4\pi a_\alpha^5 a_\beta^5}{75\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0+1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0-4 & 0 & 0 \\ 1 & 2\nu_0+1 & 2\nu_0-4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 0 & 0 & 0 & 0 & \nu_0 & 0 \end{pmatrix} \\
&\quad - \frac{2\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{010002} &= \frac{\pi a_\alpha^5 a_\beta^5}{75\mu_0(1-\nu_0)r^4} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0-1 & 0 & 0 \\ 0 & 0 & 0 & 4-2\nu_0 & 0 & 0 \\ -1 & -2\nu_0-1 & 4-2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
&\quad + \frac{\pi a_\alpha^5 a_\beta^7}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & -8\nu_0-1 & 0 & 0 \\ 0 & 0 & 0 & 12-8\nu_0 & 0 & 0 \\ -3 & -8\nu_0-1 & 12-8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-4\nu_0 \\ 0 & 0 & 0 & 0 & 1-4\nu_0 & 0 \end{pmatrix} \\
&\quad + \frac{\pi a_\alpha^7 a_\beta^5}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
&\quad - \frac{2\pi a_\alpha^5 a_\beta^7 (7a_\beta^2 + 9a_\alpha^2)}{315\mu_0(1-\nu_0)r^8} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{010010} &= \frac{\pi a_\alpha^5 a_\beta^5}{75\mu_0(1-\nu_0)r^5} \begin{pmatrix} 1-4\nu_0 & -3 & 4 & 0 & 0 & 0 \\ -3 & -12\nu_0-3 & 12 & 0 & 0 & 0 \\ 4 & 12 & 16\nu_0-24 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0+11 & 0 & 0 \\ 0 & 0 & 0 & 0 & 3\nu_0+1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-4\nu_0 \end{pmatrix} \\
&\quad - \frac{\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35\mu_0(1-\nu_0)r^7} \begin{pmatrix} -1 & -1 & 2 & 0 & 0 & 0 \\ -1 & -5 & 6 & 0 & 0 & 0 \\ 2 & 6 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{010011} &= \frac{\pi a_\alpha^5 a_\beta^7}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 4\nu_0-1 & 3 & -4 & 0 & 0 & 0 \\ 3 & 12\nu_0+3 & -12 & 0 & 0 & 0 \\ -4 & -12 & 24-16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0-11 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0-1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0-1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& -\frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{010020} = & \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 6\nu_0 + 12 & 0 & 0 \\ 0 & 0 & 0 & 6\nu_0 - 22 & 0 & 0 \\ 4 & 6\nu_0 + 12 & 6\nu_0 - 22 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 3\nu_0 + 1 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 5 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{010100} = & \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 1 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 1 \\ 0 & 0 & 0 & 0 & 0 & 4 \\ 0 & 0 & 0 & 0 & 5 - \nu_0 & 0 \\ 0 & 0 & 0 & 5 - \nu_0 & 0 & 0 \\ -2\nu_0 - 1 & -2\nu_0 - 1 & 4 & 0 & 0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{010101} = & \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{010110} &= \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 2 \\ 2\nu_0 + 1 & 3 & 2\nu_0 - 6 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 2 & 0 & 0 \end{pmatrix} \\
&\quad - \frac{\pi a_\alpha^5 a_\beta^7 (7a_\beta^2 + 9a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{010200} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
&\quad + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 4 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 10 & 0 & 0 \\ 4 & 2\nu_0 + 4 & 2\nu_0 - 10 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 3 \\ 0 & 0 & 0 & 0 & \nu_0 + 3 & 0 \end{pmatrix} \\
&\quad + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
&\quad - \frac{\pi a_\alpha^5 a_\beta^7 (7a_\beta^2 + 9a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011000} &= \frac{4\pi a_\alpha^7 a_\beta^3}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
&\quad - \frac{2\pi a_\alpha^7 a_\beta^3 (9a_\beta^2 + 5a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011001} &= \frac{4\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 4 & 0 & 0 \\ 1 & 2\nu_0 + 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 0 & 0 & 0 & 0 & \nu_0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{2\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315\mu_0(1-\nu_0)r^8} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011002} = & \frac{4\pi a_\alpha^7 a_\beta^5}{525\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & -8\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 12 - 8\nu_0 & 0 & 0 \\ -3 & -8\nu_0 - 1 & 12 - 8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 4\nu_0 \\ 0 & 0 & 0 & 0 & 1 - 4\nu_0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^9 a_\beta^5}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
& - \frac{16\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011010} = & \frac{\pi a_\alpha^7 a_\beta^5}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 1 - 4\nu_0 & -3 & 4 & 0 & 0 & 0 \\ -3 & -12\nu_0 - 3 & 12 & 0 & 0 & 0 \\ 4 & 12 & 16\nu_0 - 24 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 11 & 0 & 0 \\ 0 & 0 & 0 & 0 & 3\nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315\mu_0(1-\nu_0)r^8} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011011} = & \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 4\nu_0 - 1 & 3 & -4 & 0 & 0 & 0 \\ 3 & 12\nu_0 + 3 & -12 & 0 & 0 & 0 \\ -4 & -12 & 24 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 11 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 - 1 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{011020} &= \frac{4\pi a_\alpha^7 a_\beta^5}{525\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0-1 & 0 & 0 \\ 0 & 0 & 0 & 4-2\nu_0 & 0 & 0 \\ -1 & -2\nu_0-1 & 4-2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
&+ \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 6\nu_0+12 & 0 & 0 \\ 0 & 0 & 0 & 6\nu_0-22 & 0 & 0 \\ 4 & 6\nu_0+12 & 6\nu_0-22 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0+1 \\ 0 & 0 & 0 & 0 & 3\nu_0+1 & 0 \end{pmatrix} \\
&+ \frac{2\pi a_\alpha^9 a_\beta^5}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
&- \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 5 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011100} &= \frac{\pi a_\alpha^7 a_\beta^5}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0-1 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0-1 \\ 0 & 0 & 0 & 0 & 0 & 4 \\ 0 & 0 & 0 & 0 & 5-\nu_0 & 0 \\ 0 & 0 & 0 & 5-\nu_0 & 0 & 0 \\ -2\nu_0-1 & -2\nu_0-1 & 4 & 0 & 0 & 0 \end{pmatrix} \\
&- \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315\mu_0(1-\nu_0)r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011101} &= \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0+1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0+1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0-5 & 0 \\ 0 & 0 & 0 & \nu_0-5 & 0 & 0 \\ 2\nu_0+1 & 2\nu_0+1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
&- \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011110} &= \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0+1 & 0 \\ 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0-6 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0+2 \\ 2\nu_0+1 & 3 & 2\nu_0-6 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0+2 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{011200} = & \frac{4\pi a_\alpha^7 a_\beta^5}{525\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 4 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 10 & 0 & 0 \\ 4 & 2\nu_0 + 4 & 2\nu_0 - 10 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 3 \\ 0 & 0 & 0 & 0 & \nu_0 + 3 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^9 a_\beta^5}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020000} = & \frac{\pi a_\alpha^5 a_\beta^3}{45\mu_0(1-\nu_0)r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^5}{75\mu_0(1-\nu_0)r^5} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^3}{105\mu_0(1-\nu_0)r^5} \begin{pmatrix} 4\nu_0 + 2 & 4 & -8 & 0 & 0 & 0 \\ 4 & 12\nu_0 + 6 & -16 & 0 & 0 & 0 \\ -8 & -16 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 15 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0 - 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^3 (9a_\beta^2 + 5a_\alpha^2)}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{020001} = & \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 4\nu_0 - 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 4\nu_0 - 1 & -2 & 0 & 0 & 0 \\ -2 & -2 & 8 - 8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 - 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -3 & -1 & 4 & 0 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 4 & 4 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -4\nu_0 - 2 & -4 & 8 & 0 & 0 & 0 \\ -4 & -12\nu_0 - 6 & 16 & 0 & 0 & 0 \\ 8 & 16 & 16\nu_0 - 32 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 15 & 0 & 0 \\ 0 & 0 & 0 & 0 & 3\nu_0 + 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & -4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020002} = & \frac{\pi a_\alpha^5 a_\beta^5}{225 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 16\nu_0 - 7 & 3 & -4 & 0 & 0 & 0 \\ 3 & 16\nu_0 - 7 & -4 & 0 & 0 & 0 \\ -4 & -4 & 24 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 5 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 4\nu_0 + 2 & 4 & -8 & 0 & 0 & 0 \\ 4 & 12\nu_0 + 6 & -16 & 0 & 0 & 0 \\ -8 & -16 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 15 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0 - 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 8\nu_0 + 3 & 7 & -14 & 0 & 0 & 0 \\ 7 & 24\nu_0 + 7 & -26 & 0 & 0 & 0 \\ -14 & -26 & 56 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 24 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6\nu_0 - 8 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & -1 & 2 & 0 & 0 & 0 \\ -1 & -5 & 6 & 0 & 0 & 0 \\ 2 & 6 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& - \frac{8 \pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ -2 & -6 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020010} = & \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 4 & 0 & 0 \\ 1 & 2\nu_0 + 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 0 & 0 & 0 & 0 & \nu_0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & -6\nu_0 - 12 & 0 & 0 \\ 0 & 0 & 0 & 22 - 6\nu_0 & 0 & 0 \\ -4 & -6\nu_0 - 12 & 22 - 6\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -3\nu_0 - 1 \\ 0 & 0 & 0 & 0 & -3\nu_0 - 1 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^5 (9 a_\beta^2 + 7 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -5 & 0 & 0 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ -1 & -5 & 6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020011} = & \frac{4 \pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
& + \frac{2 \pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
& + \frac{2 \pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 6\nu_0 + 12 & 0 & 0 \\ 0 & 0 & 0 & 6\nu_0 - 22 & 0 & 0 \\ 4 & 6\nu_0 + 12 & 6\nu_0 - 22 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 3\nu_0 + 1 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 5 & 0 & 0 \\ 0 & 0 & 0 & -6 & 0 & 0 \\ 1 & 5 & -6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020020} &= \frac{\pi a_\alpha^5 a_\beta^5}{225\mu_0(1-\nu_0)r^3} \begin{pmatrix} 1-4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1-4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0-8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0+1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0+1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-2\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{525\mu_0(1-\nu_0)r^5} \begin{pmatrix} -4\nu_0-2 & -4 & 8 & 0 & 0 & 0 \\ -4 & -12\nu_0-6 & 16 & 0 & 0 & 0 \\ 8 & 16 & 16\nu_0-32 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0+15 & 0 & 0 \\ 0 & 0 & 0 & 0 & 3\nu_0+5 & 0 \\ 0 & 0 & 0 & 0 & 0 & -4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} -1 & -1 & 2 & 0 & 0 & 0 \\ -1 & -5 & 6 & 0 & 0 & 0 \\ 2 & 6 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} -4\nu_0-1 & -7 & 10 & 0 & 0 & 0 \\ -7 & -20\nu_0-25 & 42 & 0 & 0 & 0 \\ 10 & 42 & 24\nu_0-64 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0+41 & 0 & 0 \\ 0 & 0 & 0 & 0 & 5\nu_0+5 & 0 \\ 0 & 0 & 0 & 0 & 0 & -6\nu_0-1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^9 a_\beta^5}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} -1 & -1 & 2 & 0 & 0 & 0 \\ -1 & -5 & 6 & 0 & 0 & 0 \\ 2 & 6 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} -3 & -5 & 8 & 0 & 0 & 0 \\ -5 & -35 & 40 & 0 & 0 & 0 \\ 8 & 40 & -48 & 0 & 0 & 0 \\ 0 & 0 & 0 & 40 & 0 & 0 \\ 0 & 0 & 0 & 0 & 8 & 0 \\ 0 & 0 & 0 & 0 & 0 & -5 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020100} &= \frac{\pi a_\alpha^5 a_\beta^5}{75\mu_0(1-\nu_0)r^4} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0+1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0-4 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 2\nu_0+1 & 1 & 2\nu_0-4 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ -3 & -1 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 4 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 10 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 - 3 \\ -2\nu_0 - 4 & -4 & 10 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 3 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020101} = & \frac{4\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 4 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 10 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 3 \\ 2\nu_0 + 4 & 4 & 2\nu_0 - 10 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 3 & 0 & 0 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020110} = & \frac{\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 2 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 4 \\ 0 & 0 & 0 & 0 & 0 & 8 \\ 0 & 0 & 0 & 0 & 9 - \nu_0 & 0 \\ 0 & 0 & 0 & 9 - \nu_0 & 0 & 0 \\ -2\nu_0 - 2 & -2\nu_0 - 4 & 8 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -3 \\ 0 & 0 & 0 & 0 & 0 & -5 \\ 0 & 0 & 0 & 0 & 0 & 8 \\ 0 & 0 & 0 & 0 & 8 & 0 \\ 0 & 0 & 0 & 8 & 0 & 0 \\ -3 & -5 & 8 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{020200} = & \frac{\pi a_\alpha^5 a_\beta^5}{225 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 12\nu_0 + 6 & 4 & -16 & 0 & 0 & 0 \\ 4 & 4\nu_0 + 2 & -8 & 0 & 0 & 0 \\ -16 & -8 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 15 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 4\nu_0 + 2 & 4 & -8 & 0 & 0 & 0 \\ 4 & 12\nu_0 + 6 & -16 & 0 & 0 & 0 \\ -8 & -16 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 15 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0 - 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -5 & -1 & 6 & 0 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 6 & 2 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -4\nu_0 - 7 & -5 & 14 & 0 & 0 & 0 \\ -5 & -4\nu_0 - 7 & 14 & 0 & 0 & 0 \\ 14 & 14 & 8\nu_0 - 32 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 13 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 13 & 0 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 3 \end{pmatrix} \\
& + \frac{\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -1 & -1 & 2 & 0 & 0 & 0 \\ -1 & -5 & 6 & 0 & 0 & 0 \\ 2 & 6 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} -5 & -3 & 8 & 0 & 0 & 0 \\ -3 & -5 & 8 & 0 & 0 & 0 \\ 8 & 8 & -16 & 0 & 0 & 0 \\ 0 & 0 & 0 & 8 & 0 & 0 \\ 0 & 0 & 0 & 0 & 8 & 0 \\ 0 & 0 & 0 & 0 & 0 & -3 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100000} = & \frac{\pi a_\alpha^5 a_\beta^3}{15 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^5 a_\beta^3 (7 a_\beta^2 + 5 a_\alpha^2)}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100001} &= \frac{4\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 2\nu_0 + 1 & 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 & 0 & 0 \end{pmatrix} \\
& - \frac{2\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100002} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & -8\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & 12 - 8\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 4\nu_0 \\ -8\nu_0 - 1 & -3 & 12 - 8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 - 4\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100010} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 1 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 1 \\ 0 & 0 & 0 & 0 & 0 & 4 \\ 0 & 0 & 0 & 0 & 5 - \nu_0 & 0 \\ 0 & 0 & 0 & 5 - \nu_0 & 0 & 0 \\ -2\nu_0 - 1 & -2\nu_0 - 1 & 4 & 0 & 0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{100011} &= \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^5 a_\beta^7 (7a_\beta^2 + 9a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100020} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 4 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 10 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 3 \\ 2\nu_0 + 4 & 4 & 2\nu_0 - 10 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 3 & 0 & 0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
&- \frac{\pi a_\alpha^5 a_\beta^7 (7a_\beta^2 + 9a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100100} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -12\nu_0 - 3 & -3 & 12 & 0 & 0 & 0 \\ -3 & 1 - 4\nu_0 & 4 & 0 & 0 & 0 \\ 12 & 4 & 16\nu_0 - 24 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 11 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 4\nu_0 \end{pmatrix} \\
&- \frac{\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{35 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -5 & -1 & 6 & 0 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 6 & 2 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100101} &= \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 12\nu_0 + 3 & 3 & -12 & 0 & 0 & 0 \\ 3 & 4\nu_0 - 1 & -4 & 0 & 0 & 0 \\ -12 & -4 & 24 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 11 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 - 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100110} &= \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 6 & 0 & 0 \\ 3 & 2\nu_0 + 1 & 2\nu_0 - 6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 2 \\ 0 & 0 & 0 & 0 & \nu_0 + 2 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{100200} &= \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 6\nu_0 + 12 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 6\nu_0 - 22 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0 + 1 \\ 6\nu_0 + 12 & 4 & 6\nu_0 - 22 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0 + 1 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^7 (7 a_\beta^2 + 9 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 5 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 5 & 1 & -6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{101000} &= \frac{4 \pi a_\alpha^7 a_\beta^3}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{2 \pi a_\alpha^7 a_\beta^3 (9 a_\beta^2 + 5 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{101001} &= \frac{4\pi a_\alpha^7 a_\beta^5}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0+1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0-4 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 2\nu_0+1 & 1 & 2\nu_0-4 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 & 0 & 0 \end{pmatrix} \\
&\quad - \frac{2\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315\mu_0(1-\nu_0)r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{101002} &= \frac{4\pi a_\alpha^7 a_\beta^5}{525\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0-1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4-2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0-1 & -1 & 4-2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
&\quad + \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & -8\nu_0-1 & 0 \\ 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & 12-8\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-4\nu_0 \\ -8\nu_0-1 & -3 & 12-8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1-4\nu_0 & 0 & 0 \end{pmatrix} \\
&\quad + \frac{2\pi a_\alpha^9 a_\beta^5}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
&\quad - \frac{16\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ -3 & -1 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{101010} &= \frac{\pi a_\alpha^7 a_\beta^5}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0-1 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0-1 \\ 0 & 0 & 0 & 0 & 0 & 4 \\ 0 & 0 & 0 & 0 & 5-\nu_0 & 0 \\ 0 & 0 & 0 & 5-\nu_0 & 0 & 0 \\ -2\nu_0-1 & -2\nu_0-1 & 4 & 0 & 0 & 0 \end{pmatrix} \\
&\quad - \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315\mu_0(1-\nu_0)r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{101011} &= \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0+1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0+1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0-5 & 0 \\ 0 & 0 & 0 & \nu_0-5 & 0 & 0 \\ 2\nu_0+1 & 2\nu_0+1 & -4 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{101020} = & -\frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0 (1-\nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{4\pi a_\alpha^7 a_\beta^5}{525\mu_0 (1-\nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0 (1-\nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 4 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 10 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 3 \\ 2\nu_0 + 4 & 4 & 2\nu_0 - 10 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 3 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^9 a_\beta^5}{315\mu_0 (1-\nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0 (1-\nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{101100} = & \frac{\pi a_\alpha^7 a_\beta^5}{105\mu_0 (1-\nu_0) r^6} \begin{pmatrix} -12\nu_0 - 3 & -3 & 12 & 0 & 0 & 0 \\ -3 & 1 - 4\nu_0 & 4 & 0 & 0 & 0 \\ 12 & 4 & 16\nu_0 - 24 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 11 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315\mu_0 (1-\nu_0) r^8} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{101101} = & \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0 (1-\nu_0) r^7} \begin{pmatrix} 12\nu_0 + 3 & 3 & -12 & 0 & 0 & 0 \\ 3 & 4\nu_0 - 1 & -4 & 0 & 0 & 0 \\ -12 & -4 & 24 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 11 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 - 1 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0 (1-\nu_0) r^9} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{101110} &= \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0+1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0-6 & 0 & 0 \\ 3 & 2\nu_0+1 & 2\nu_0-6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0+2 \\ 0 & 0 & 0 & 0 & \nu_0+2 & 0 \end{pmatrix} \\
&\quad - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{101200} &= \frac{4\pi a_\alpha^7 a_\beta^5}{525\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0-1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4-2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0-1 & -1 & 4-2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
&\quad + \frac{2\pi a_\alpha^7 a_\beta^7}{245\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 6\nu_0+12 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 6\nu_0-22 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0+1 \\ 6\nu_0+12 & 4 & 6\nu_0-22 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0+1 & 0 & 0 \end{pmatrix} \\
&\quad + \frac{2\pi a_\alpha^9 a_\beta^5}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
&\quad - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0(1-\nu_0)r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 5 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 5 & 1 & -6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{110000} &= \frac{\pi a_\alpha^7 a_\beta^3}{105\mu_0(1-\nu_0)r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0+1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0+1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0-5 & 0 \\ 0 & 0 & 0 & \nu_0-5 & 0 & 0 \\ 2\nu_0+1 & 2\nu_0+1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
&\quad + \frac{\pi a_\alpha^7 a_\beta^3 (9a_\beta^2 + 5a_\alpha^2)}{315\mu_0(1-\nu_0)r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{110001} &= \frac{\pi a_\alpha^7 a_\beta^5}{105\mu_0(1-\nu_0)r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0-1 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0-1 \\ 0 & 0 & 0 & 0 & 0 & 4 \\ 0 & 0 & 0 & 0 & 5-\nu_0 & 0 \\ 0 & 0 & 0 & 5-\nu_0 & 0 & 0 \\ -2\nu_0-1 & -2\nu_0-1 & 4 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{\pi a_\alpha^7 a_\beta^5 (9 a_\beta^2 + 7 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{110002} &= \frac{\pi a_\alpha^7 a_\beta^5}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 4\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -6 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 8 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 8 & 0 & 0 \\ 4\nu_0 + 1 & 4\nu_0 + 1 & -6 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
& - \frac{8 \pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & -2 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{110010} &= \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & 6 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 - 2 \\ -2\nu_0 - 1 & -3 & 6 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 2 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5 (9 a_\beta^2 + 7 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{110011} &= \frac{2 \pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0 - 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 2 \\ 2\nu_0 + 1 & 3 & 2\nu_0 - 6 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 2 & 0 & 0 \end{pmatrix} \\
& - \frac{8 \pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{110020} &= \frac{\pi a_\alpha^7 a_\beta^5}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 2 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 4 \\ 0 & 0 & 0 & 0 & 0 & 8 \\ 0 & 0 & 0 & 0 & 9 - \nu_0 & 0 \\ 0 & 0 & 0 & 9 - \nu_0 & 0 & 0 \\ -2\nu_0 - 2 & -2\nu_0 - 4 & 8 & 0 & 0 & 0 \end{pmatrix} \\
&+ \frac{\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
&- \frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -3 \\ 0 & 0 & 0 & 0 & 0 & -5 \\ 0 & 0 & 0 & 0 & 0 & 8 \\ 0 & 0 & 0 & 0 & 8 & 0 \\ 0 & 0 & 0 & 8 & 0 & 0 \\ -3 & -5 & 8 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{110100} &= \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 6 - 2\nu_0 & 0 & 0 \\ -3 & -2\nu_0 - 1 & 6 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 - 2 \\ 0 & 0 & 0 & 0 & -\nu_0 - 2 & 0 \end{pmatrix} \\
&- \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{110101} &= \frac{2\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 6 & 0 & 0 \\ 3 & 2\nu_0 + 1 & 2\nu_0 - 6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 2 \\ 0 & 0 & 0 & 0 & \nu_0 + 2 & 0 \end{pmatrix} \\
&- \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{110110} &= \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -4\nu_0 - 1 & -3 & 6 & 0 & 0 & 0 \\ -3 & -4\nu_0 - 1 & 6 & 0 & 0 & 0 \\ 6 & 6 & 8\nu_0 - 16 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{110200} = & -\frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} -5 & -3 & 8 & 0 & 0 & 0 \\ -3 & -5 & 8 & 0 & 0 & 0 \\ 8 & 8 & -16 & 0 & 0 & 0 \\ 0 & 0 & 0 & 8 & 0 & 0 \\ 0 & 0 & 0 & 0 & 8 & 0 \\ 0 & 0 & 0 & 0 & 0 & -3 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 4 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 2 \\ 0 & 0 & 0 & 0 & 0 & 8 \\ 0 & 0 & 0 & 0 & 9 - \nu_0 & 0 \\ 0 & 0 & 0 & 9 - \nu_0 & 0 & 0 \\ -2\nu_0 - 4 & -2\nu_0 - 2 & 8 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -5 \\ 0 & 0 & 0 & 0 & 0 & -3 \\ 0 & 0 & 0 & 0 & 0 & 8 \\ 0 & 0 & 0 & 0 & 8 & 0 \\ 0 & 0 & 0 & 8 & 0 & 0 \\ -5 & -3 & 8 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200000} = & \frac{\pi a_\alpha^5 a_\beta^3}{45 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^3}{105 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 12\nu_0 + 6 & 4 & -16 & 0 & 0 & 0 \\ 4 & 4\nu_0 + 2 & -8 & 0 & 0 & 0 \\ -16 & -8 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 15 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^3 (9a_\beta^2 + 5a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
\mathbf{T}_{\alpha\beta}^{200001} = & \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 4\nu_0 - 1 & 1 & -2 & 0 & 0 & 0 \\ 1 & 4\nu_0 - 1 & -2 & 0 & 0 & 0 \\ -2 & -2 & 8 - 8\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 - 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -3 & -1 & 4 & 0 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 4 & 4 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} -12\nu_0 - 6 & -4 & 16 & 0 & 0 & 0 \\ -4 & -4\nu_0 - 2 & 8 & 0 & 0 & 0 \\ 16 & 8 & 16\nu_0 - 32 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0 + 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 15 & 0 \\ 0 & 0 & 0 & 0 & 0 & -4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200002} = & \frac{\pi a_\alpha^5 a_\beta^5}{225 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 16\nu_0 - 7 & 3 & -4 & 0 & 0 & 0 \\ 3 & 16\nu_0 - 7 & -4 & 0 & 0 & 0 \\ -4 & -4 & 24 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4\nu_0 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 5 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 12\nu_0 + 6 & 4 & -16 & 0 & 0 & 0 \\ 4 & 4\nu_0 + 2 & -8 & 0 & 0 & 0 \\ -16 & -8 & 32 - 16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0 - 15 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 3 & 1 & -4 & 0 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ -4 & -4 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 24\nu_0 + 7 & 7 & -26 & 0 & 0 & 0 \\ 7 & 8\nu_0 + 3 & -14 & 0 & 0 & 0 \\ -26 & -14 & 56 - 32\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -6\nu_0 - 8 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2\nu_0 - 24 & 0 \\ 0 & 0 & 0 & 0 & 0 & 8\nu_0 - 1 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -5 & -1 & 6 & 0 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 6 & 2 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& - \frac{8 \pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 5 & 1 & -6 & 0 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ -6 & -2 & 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200010} = & \frac{\pi a_\alpha^5 a_\beta^5}{75 \mu_0 (1 - \nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 4 & 0 & 0 \\ 1 & 2\nu_0 + 1 & 2\nu_0 - 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 0 & 0 & 0 & 0 & \nu_0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -3 & 0 & 0 \\ 0 & 0 & 0 & 4 & 0 & 0 \\ -1 & -3 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & -4 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 4 & 0 & 0 \\ 0 & 0 & 0 & 10 - 2\nu_0 & 0 & 0 \\ -4 & -2\nu_0 - 4 & 10 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 - 3 \\ 0 & 0 & 0 & 0 & -\nu_0 - 3 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^5 (9 a_\beta^2 + 7 a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & -1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200011} = & \frac{4 \pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & -2\nu_0 - 1 & 0 & 0 \\ 0 & 0 & 0 & 4 - 2\nu_0 & 0 & 0 \\ -1 & -2\nu_0 - 1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ 0 & 0 & 0 & 0 & -\nu_0 & 0 \end{pmatrix} \\
& + \frac{2 \pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 0 & 0 & -4 & 0 & 0 \\ 1 & 3 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
& + \frac{2 \pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 4 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 + 4 & 0 & 0 \\ 0 & 0 & 0 & 2\nu_0 - 10 & 0 & 0 \\ 4 & 2\nu_0 + 4 & 2\nu_0 - 10 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 + 3 \\ 0 & 0 & 0 & 0 & \nu_0 + 3 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0 (1-\nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 1 & 1 & -2 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 1 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200020} = & \frac{\pi a_\alpha^5 a_\beta^5}{225\mu_0 (1-\nu_0) r^3} \begin{pmatrix} 1-4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1-4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0-8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0+1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0+1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1-2\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^7}{525\mu_0 (1-\nu_0) r^5} \begin{pmatrix} 4\nu_0+2 & 4 & -8 & 0 & 0 & 0 \\ 4 & 12\nu_0+6 & -16 & 0 & 0 & 0 \\ -8 & -16 & 32-16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0-15 & 0 & 0 \\ 0 & 0 & 0 & 0 & -3\nu_0-5 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{525\mu_0 (1-\nu_0) r^5} \begin{pmatrix} 12\nu_0+6 & 4 & -16 & 0 & 0 & 0 \\ 4 & 4\nu_0+2 & -8 & 0 & 0 & 0 \\ -16 & -8 & 32-16\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0-5 & 0 & 0 \\ 0 & 0 & 0 & 0 & -\nu_0-15 & 0 \\ 0 & 0 & 0 & 0 & 0 & 4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315\mu_0 (1-\nu_0) r^7} \begin{pmatrix} -1 & -1 & 2 & 0 & 0 & 0 \\ -1 & -5 & 6 & 0 & 0 & 0 \\ 2 & 6 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245\mu_0 (1-\nu_0) r^7} \begin{pmatrix} -4\nu_0-7 & -5 & 14 & 0 & 0 & 0 \\ -5 & -4\nu_0-7 & 14 & 0 & 0 & 0 \\ 14 & 14 & 8\nu_0-32 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0+13 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0+13 & 0 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0-3 \end{pmatrix} \\
& + \frac{\pi a_\alpha^9 a_\beta^5}{315\mu_0 (1-\nu_0) r^7} \begin{pmatrix} -5 & -1 & 6 & 0 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 6 & 2 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315\mu_0 (1-\nu_0) r^9} \begin{pmatrix} -5 & -3 & 8 & 0 & 0 & 0 \\ -3 & -5 & 8 & 0 & 0 & 0 \\ 8 & 8 & -16 & 0 & 0 & 0 \\ 0 & 0 & 0 & 8 & 0 & 0 \\ 0 & 0 & 0 & 0 & 8 & 0 \\ 0 & 0 & 0 & 0 & 0 & -3 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200100} = & \frac{\pi a_\alpha^5 a_\beta^5}{75\mu_0 (1-\nu_0) r^4} \begin{pmatrix} 0 & 0 & 0 & 0 & 2\nu_0+1 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 2\nu_0-4 & 0 \\ 0 & 0 & 0 & 0 & 0 & \nu_0 \\ 2\nu_0+1 & 1 & 2\nu_0-4 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^5 a_\beta^7}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & -3 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ -3 & -1 & 4 & 0 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5}{105 \mu_0 (1 - \nu_0) r^6} \begin{pmatrix} 0 & 0 & 0 & 0 & -6\nu_0 - 12 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 22 - 6\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -3\nu_0 - 1 \\ -6\nu_0 - 12 & -4 & 22 - 6\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -3\nu_0 - 1 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^5 (9a_\beta^2 + 7a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^8} \begin{pmatrix} 0 & 0 & 0 & 0 & 5 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 5 & 1 & -6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200101} = & \frac{4\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & -2\nu_0 - 1 & 0 \\ 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 4 - 2\nu_0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -\nu_0 \\ -2\nu_0 - 1 & -1 & 4 - 2\nu_0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -\nu_0 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 3 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -4 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 3 & 1 & -4 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
& + \frac{2\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 6\nu_0 + 12 & 0 \\ 0 & 0 & 0 & 0 & 4 & 0 \\ 0 & 0 & 0 & 0 & 6\nu_0 - 22 & 0 \\ 0 & 0 & 0 & 0 & 0 & 3\nu_0 + 1 \\ 6\nu_0 + 12 & 4 & 6\nu_0 - 22 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0 + 1 & 0 & 0 \end{pmatrix} \\
& - \frac{8\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 5 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & -6 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 5 & 1 & -6 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200110} = & \frac{\pi a_\alpha^5 a_\beta^7}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & 2\nu_0 + 1 \\ 0 & 0 & 0 & 0 & 0 & -4 \\ 0 & 0 & 0 & 0 & \nu_0 - 5 & 0 \\ 0 & 0 & 0 & \nu_0 - 5 & 0 & 0 \\ 2\nu_0 + 1 & 2\nu_0 + 1 & -4 & 0 & 0 & 0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \end{pmatrix}
\end{aligned}$$

$$\begin{aligned}
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 4 \\ 0 & 0 & 0 & 0 & 0 & -2\nu_0 - 2 \\ 0 & 0 & 0 & 0 & 0 & 8 \\ 0 & 0 & 0 & 0 & 9 - \nu_0 & 0 \\ 0 & 0 & 0 & 9 - \nu_0 & 0 & 0 \\ -2\nu_0 - 4 & -2\nu_0 - 2 & 8 & 0 & 0 & 0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} 0 & 0 & 0 & 0 & 0 & -5 \\ 0 & 0 & 0 & 0 & 0 & -3 \\ 0 & 0 & 0 & 0 & 0 & 8 \\ 0 & 0 & 0 & 0 & 8 & 0 \\ 0 & 0 & 0 & 8 & 0 & 0 \\ -5 & -3 & 8 & 0 & 0 & 0 \end{pmatrix} \\
\mathbf{T}_{\alpha\beta}^{200200} = & \frac{\pi a_\alpha^5 a_\beta^5}{225 \mu_0 (1 - \nu_0) r^3} \begin{pmatrix} 1 - 4\nu_0 & -1 & 2 & 0 & 0 & 0 \\ -1 & 1 - 4\nu_0 & 2 & 0 & 0 & 0 \\ 2 & 2 & 8\nu_0 - 8 & 0 & 0 & 0 \\ 0 & 0 & 0 & \nu_0 + 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 - 2\nu_0 \end{pmatrix} \\
& - \frac{\pi a_\alpha^5 a_\beta^5 (a_\beta^2 + a_\alpha^2)}{525 \mu_0 (1 - \nu_0) r^5} \begin{pmatrix} -12\nu_0 - 6 & -4 & 16 & 0 & 0 & 0 \\ -4 & -4\nu_0 - 2 & 8 & 0 & 0 & 0 \\ 16 & 8 & 16\nu_0 - 32 & 0 & 0 & 0 \\ 0 & 0 & 0 & 3\nu_0 + 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 15 & 0 \\ 0 & 0 & 0 & 0 & 0 & -4\nu_0 \end{pmatrix} \\
& + \frac{\pi a_\alpha^5 a_\beta^9}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -5 & -1 & 6 & 0 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 6 & 2 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^7 a_\beta^7}{245 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -20\nu_0 - 25 & -7 & 42 & 0 & 0 & 0 \\ -7 & -4\nu_0 - 1 & 10 & 0 & 0 & 0 \\ 42 & 10 & 24\nu_0 - 64 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5\nu_0 + 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & \nu_0 + 41 & 0 \\ 0 & 0 & 0 & 0 & 0 & -6\nu_0 - 1 \end{pmatrix} \\
& + \frac{\pi a_\alpha^9 a_\beta^5}{315 \mu_0 (1 - \nu_0) r^7} \begin{pmatrix} -5 & -1 & 6 & 0 & 0 & 0 \\ -1 & -1 & 2 & 0 & 0 & 0 \\ 6 & 2 & -8 & 0 & 0 & 0 \\ 0 & 0 & 0 & 2 & 0 & 0 \\ 0 & 0 & 0 & 0 & 6 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix} \\
& - \frac{\pi a_\alpha^7 a_\beta^7 (a_\beta^2 + a_\alpha^2)}{315 \mu_0 (1 - \nu_0) r^9} \begin{pmatrix} -35 & -5 & 40 & 0 & 0 & 0 \\ -5 & -3 & 8 & 0 & 0 & 0 \\ 40 & 8 & -48 & 0 & 0 & 0 \\ 0 & 0 & 0 & 8 & 0 & 0 \\ 0 & 0 & 0 & 0 & 40 & 0 \\ 0 & 0 & 0 & 0 & 0 & -5 \end{pmatrix}
\end{aligned}$$

References

- [1] S. Brisard, L. Dormieux and K. Sab, A variational form of the equivalent inclusion method for numerical homogenization. *International Journal of Solids and Structures*, 51(3-4), 716–728, 2014.