$$-\alpha^2-\frac{\alpha\beta\sqrt{x_1^2+y_1^2+z_1^2}}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^2}+\frac{\alpha\beta(x_1x_2+y_1y_2+z_1z_2)}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^2\sqrt{x_1^2+y_1^2+z_1^2}}+\frac{2\alpha}{\sqrt{x_1^2+y_1^2+z_1^2}}+\frac{\alpha\sqrt{x_1^2+y_1^2+z_1^2}}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}}-\frac{\alpha(x_1x_2+y_1y_2+z_1z_2)}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)\sqrt{x_1^2+y_1^2+z_1^2}\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}}-$$
$$\frac{\beta^2\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^3}-\frac{\beta^2\left(x_1^2+y_1^2+z_1^2\right)}{2\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^4}+\frac{\beta^2(x_1x_2+y_1y_2+z_1z_2)}{2\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^4}+\frac{2\beta}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^2}+\frac{\beta\left(x_1^2+y_1^2+z_1^2\right)}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^3\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}}-\frac{\beta(x_1x_2+y_1y_2+z_1z_2)}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^3\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+}}$$
$$\frac{1}{\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}}-\frac{4}{\sqrt{x_1^2+y_1^2+z_1^2}}-\frac{1}{\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}}-\frac{x_1^2+y_1^2+z_1^2}{2\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^2\left((x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2\right)}+\frac{x_1x_2+y_1y_2+z_1z_2}{2\left(\beta\sqrt{(x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2}+1\right)^2\left((x_1-x_2)^2+(y_1-y_2)^2+(z_1-z_2)^2\right)}$$