For $T \gg \omega_0$

$$\frac{1}{\tau_{ep}} = \frac{g\alpha^{2n} m_x}{\pi|p_x|} \int_0^\infty \frac{ck^2 dk}{(k^2 + \alpha^2)^n [\exp(ck/T) - 1]} \sim \frac{g\alpha^2 m_x}{|p_x|} T \ . \quad (45)$$

For $T \ll \omega_0$, the result is

$$\frac{1}{\tau_{ep}} = \frac{g m_x}{\pi|p_x|} \int_0^\infty \frac{ck^2 dk}{[\exp(ck/T) - 1]} = \frac{2\zeta(3) g m_x T^3}{\pi c^2 |p_x|} \ . \quad (46)$$

The ratio of the probabilities for $T \gg \omega_0$ has the order of magnitude

$$\frac{\tau_{ep}^{-1}}{\tau_{ee}^{-1}} \sim \frac{g\alpha^2 \varepsilon_\infty}{e^2} \gtrsim 1 \ . \quad (47)$$

However for $T \ll \omega_0$ the electron-electron scattering is dominant. The dominance of the electron-electron scattering over the electron-phonon scattering can be concluded also from the experimental fact that with decreasing temperature below T_c the lifetime of quasiparticles obtained from infrared measurements starts to increase rapidly [32]. If such a dominance takes place below T_c, it must definitely continue in some temperature range above T_c.

If the singular points are at all the boundaries of the Brillouin zone, the resistivity in the ab-plane is

$$\rho = \frac{\pi^2}{8} \frac{m_x d}{p_{y0}(\mu - \varepsilon_0)} \frac{T}{\varepsilon_\infty} \ . \quad (48)$$

The crucial idea for all results obtained in the foregoing is the assumption $\varepsilon_\infty \gg 1$. Apart from that we have presumed a modification of the electron-phonon interaction (square of the matrix element) which is described by formula (19). We realize that this treatment is not complete. The Coulomb repulsion has not been seriously considered. In the model of strongly compressed matter [33], it compensates almost entirely the phonon attraction due to longitudinal phonons (in this case $n = 1$); we hope that this analogy cannot be extended to such extremely anisotropic substances, as layered cuprates.

The quasi 1D spectrum appearing as a result of the "extended saddle point singularities" puts also questions about the applicability of the Fermi liquid approach, since the purely 1D interacting Fermi system is more likely to be a "Luttinger liquid". We hope that the non-1D features will be sufficient to suppress the logs leading eventually to the breakdown of the