Formula 1 of the paper corresponds to lines 238-267 of the code main\_stage2.py.

Formula 2 of the paper corresponds to lines 315-327 of the code main\_stage2.py.

Formula 3 of the paper corresponds to lines 269-278 of the code main\_stage2.py.

Formula 4 of the paper corresponds to lines 280-288 of the code main\_stage2.py.