Step 1 process-flow diagram

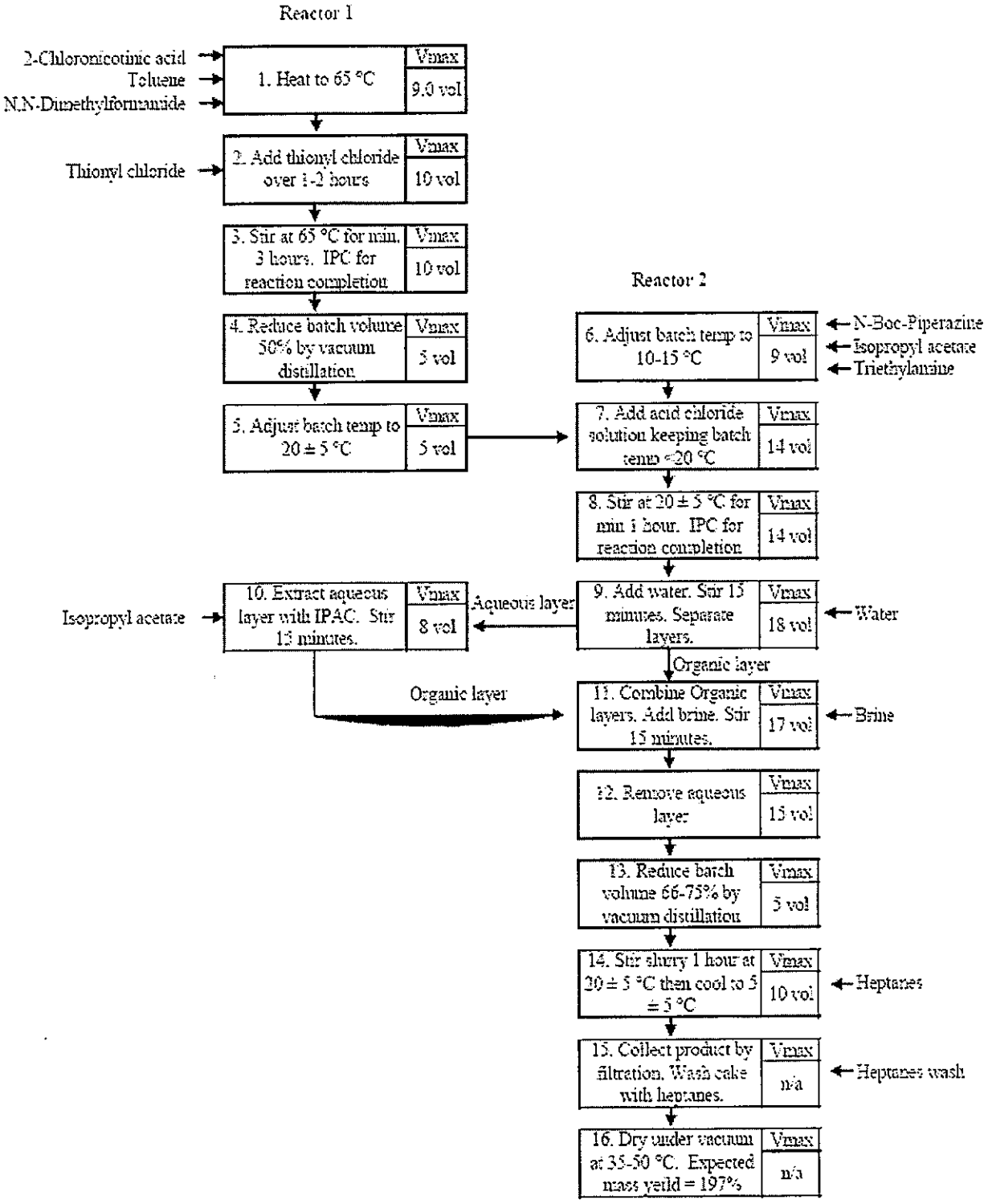


Figure 1

Step 2 process-flow diagram

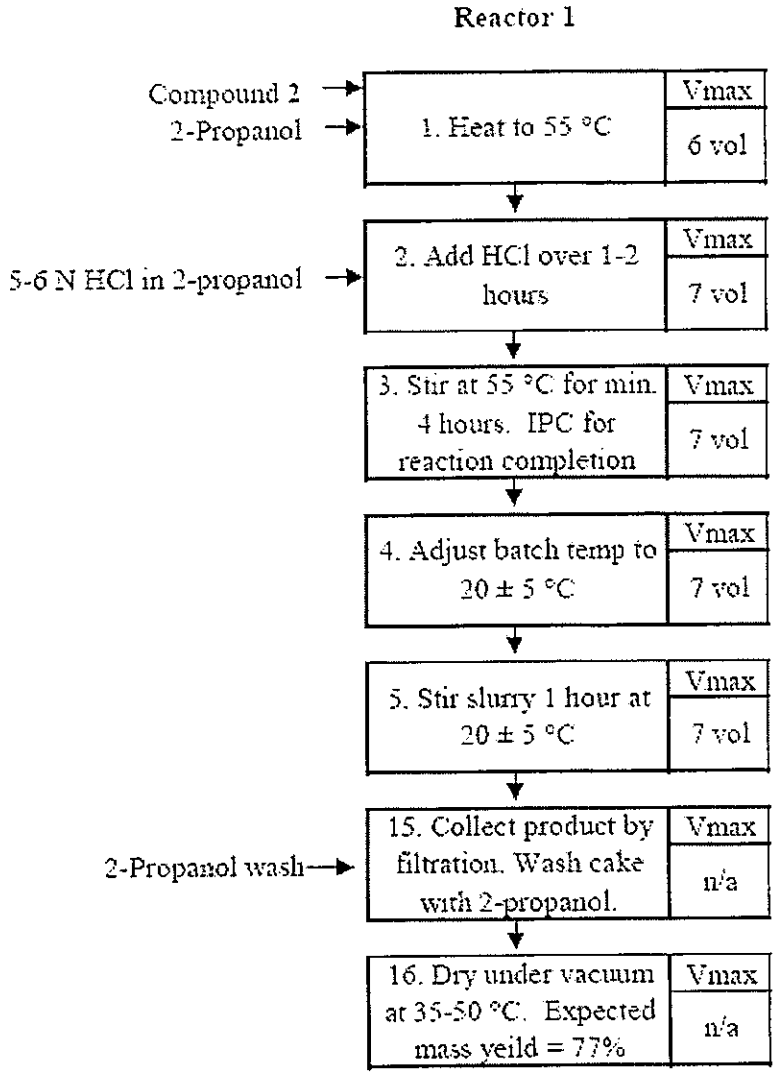


Figure 2

Steps 3 and 4 process-flow diagram

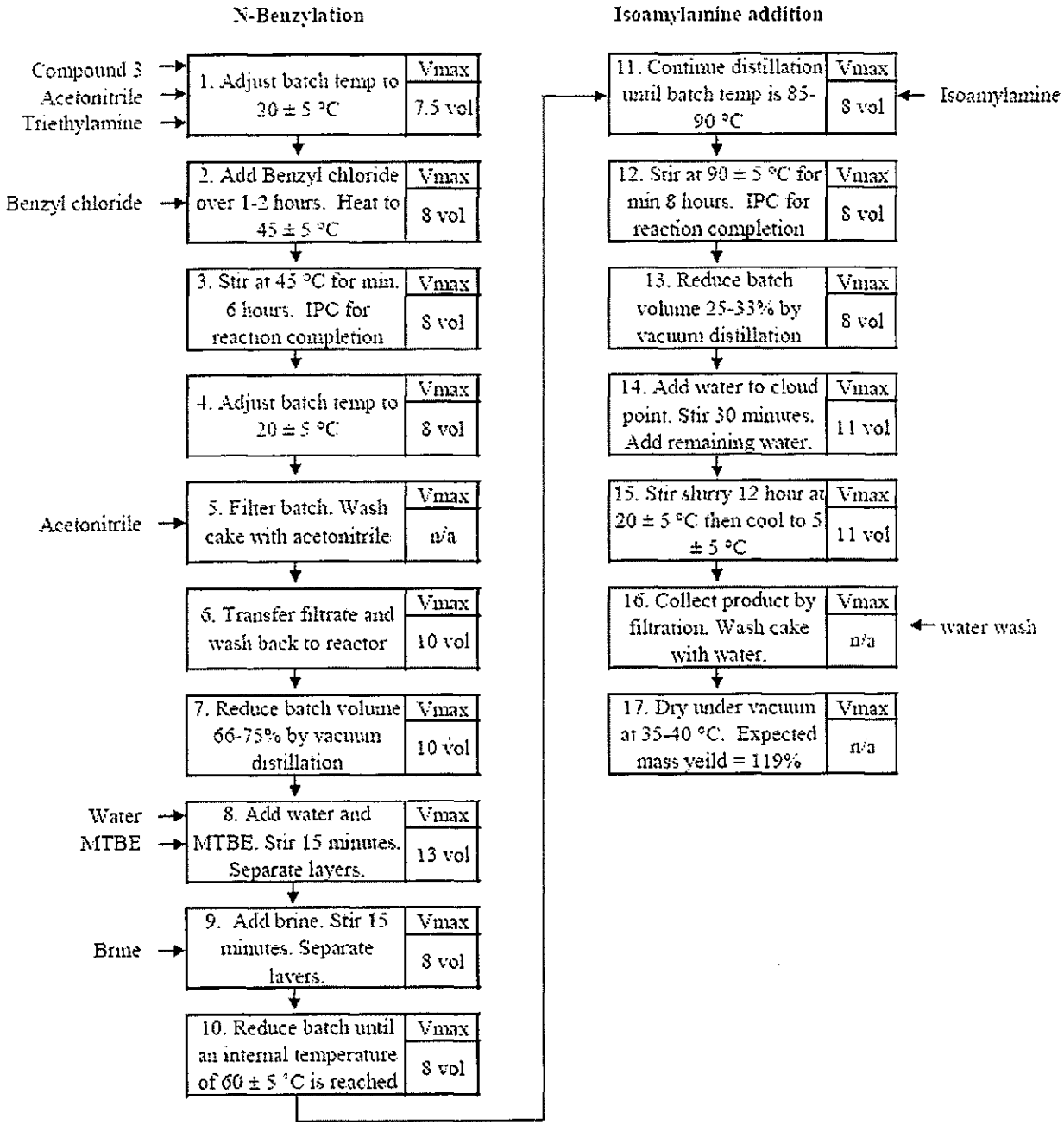


Figure 3

4/4

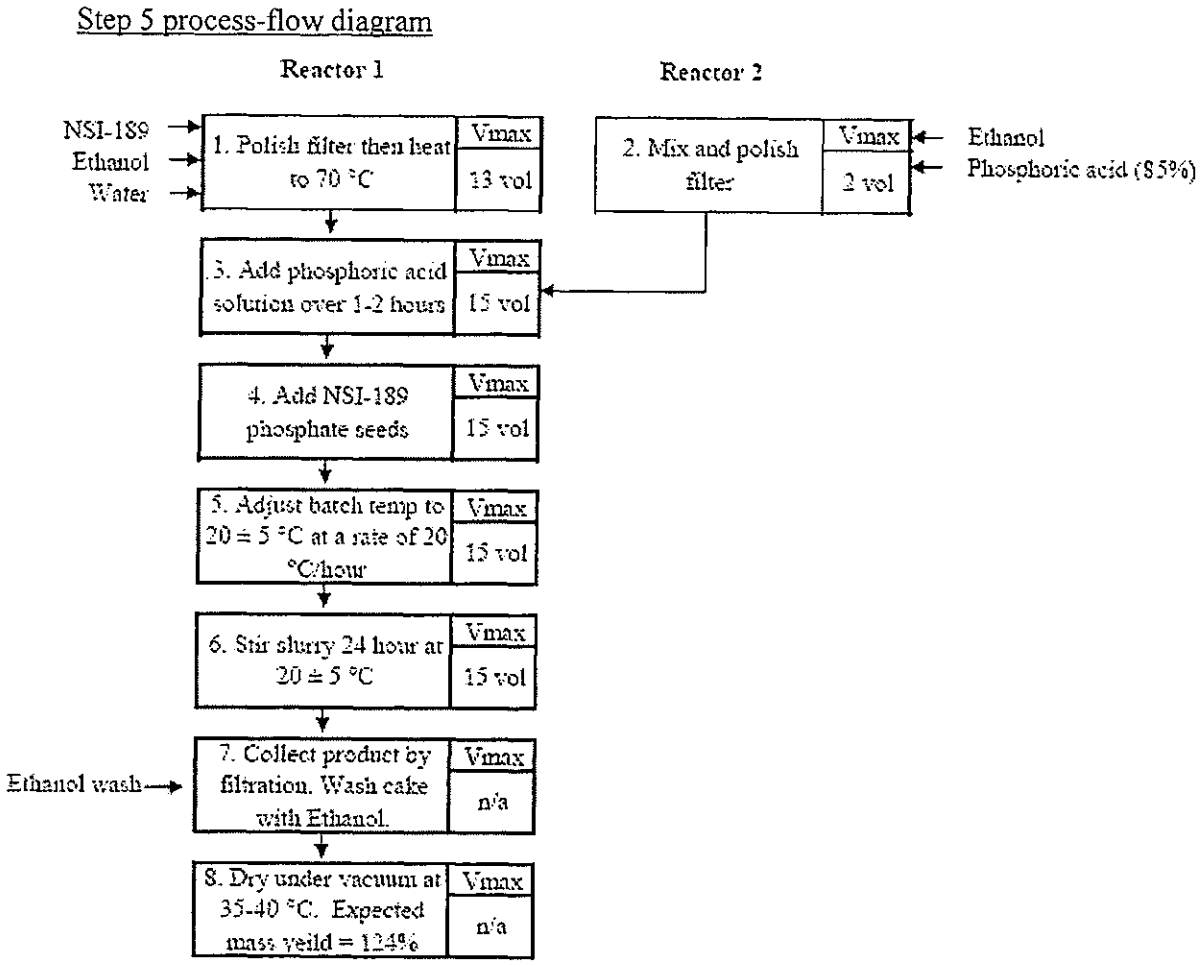

Step 5 process-flow diagram
Reactor 1
Reactor 2
NSI-189
Ethanol
Water
1. Polish filter then heat to 70 °C
Vmax
13 vol
2. Mix and polish filter
Vmax
2 vol
Ethanol
Phosphoric acid (85%)
3. Add phosphoric acid solution over 1-2 hours
Vmax
15 vol
4. Add NSI-189 phosphate seeds
Vmax
15 vol
5. Adjust batch temp to 20 ± 5 °C at a rate of 20 °C/hour
Vmax
15 vol
6. Stir slurry 24 hour at 20 ± 5 °C
Vmax
15 vol
Ethanol wash
7. Collect product by filtration. Wash cake with Ethanol.
Vmax
n/a
8. Dry under vacuum at 35-40 °C. Expected mass yeild = 124%
Vmax
n/a

Figure 4