

Table 1
Composition and Properties of Isolated *E. coli* Nucleoids

| | High salt | | Low salt |
|---|--------------------------------|---|---|
| | Envelope-free nucleoid | Envelope-associated nucleoid ^a | Envelope-associated nucleoid ^a |
| Sedimentation coefficient (S ^o is corrected to zero rotor speed) | 1900 S ^o | ~5500 S ^o | 4000–(not corrected) 6000 S |
| Buoyant density in CsCl | 1.69 ± 0.02 gm/cm ³ | 1.46 ± 0.02 gm/cm ³ | 1.62 gm/cm ³ (protein–DNA complex from nucleoid) |
| DNA genome equivalents per unfolded DNA molecule | 1.4 | — | — |
| DNA genome equivalents per nucleoid (doublets ^b counted as one nucleoid) | 2.8 | — | — |
| Titrateable DNA superhelical density ($\bar{\sigma}^o$) ^c | -0.06 | — | — |
| Domains of supercoiling per genome equivalent of DNA | 60–120 | — | — |
| DNA content (weight fraction) | 0.6 | ~0.4 | — |
| RNA content (weight fraction) | 0.3 | 0.15–0.40 | — |
| Lipid content (percentage of total) | <0.01 | ~20 | 6–10 |
| Protein content (weight fraction) | 0.05–0.1 | ~0.4 | 2–3 (percent of total) |
| Bound proteins | | | |
| RNA polymerase | yes | yes | yes |
| Envelope protein | negligible | yes | yes |
| Histonelike proteins | no | no | HU + protein 1 |

^aEnvelope-associated nucleoids can vary in composition depending on preparation. Figures for high-salt nucleoids are from publications of authors of this chapter; figures for low salt nucleoids are from Kornberg *et al.*, 1974, Dworsky, 1976, or Varshavsky *et al.*, 1977a,b.

^bWhen doublets (see Section III,B) are scored as two nucleoids, the singlet value is obtained.

^cCorrected for standard conditions 0.2 M NaCl, 37°C, neutral pH. From Bauer, 1978.